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Improving the Written Products of Students with the Help of Computer Technology: The Case of Third–Year EFL Students at the University of Constantine I

Thesis Submitted to the Department of Letters and English Language in Candidacy for the Degree of 'DOCTORAT LMD' in Applied Language Studies

By Tareq BOUDJADAR

Supervisor: Prof. Youcef BEGHOUL

Board of Examiners:

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DEDICATION

I dedicate this work:

To my parents: You have been like the sun and the moon in my life. God bless you!

To my brothers and sisters: You are the brightest stars in the sky;

To my beloved wife; and

To all my friends and colleagues.

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Praise be to Allah, and peace be on the Messengers.

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ABSTRACT

Information and Communication Technologies have a substantial role in English Language Teaching. This work explores the potential of computer technology for helping EFL students overcome some difficulties in writing compared to conventional composing. In particular, it examines the usefulness of 'Oxford iWriter' - an interactive tool integrated with the Oxford Advanced Learner's Dictionary CD-ROM of 2010 - that was designed to help learners write more effectively in English. We hypothesize that if students use the software efficiently, they would be able to improve some aspects of their written products. We conducted an experiment with 108 third-year EFL students from two groups at the UNIVERSITY OF CONSTANTINE. The subjects from the treatment group practised writing with the help of Oxford iWriter in an equipped language laboratory, then their written products were assessed and compared to those of their peers in the control group. A questionnaire was administered to the subjects as well as to 42 university teachers to assess their motivation and attitudes towards using technology in EFL classrooms. The results show some improvements in the written products of many students and also students' eagerness and readiness to learn with the help of technology. As for teachers, some of them are not necessarily technophiles. Curricula are to be reviewed and teachers are to receive adequate training in order to achieve more success in implementing educational technology in Algeria in the twenty-first century.

KEYWORDS: complexity, computer literacy, computer technology, computer-assisted language learning, e-Algeria 2013, global information technology report, information and communication technology, Oxford Advanced Learner's Dictionary, Oxford iWriter, second language writing

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LIST OF ABBREVIATIONS

CALL	Computer-Assisted Language Learning
CD-ROM	Compact Disc Read-Only Memory
DVD	Digital Versatile Disc
EdD	Doctor of education
EFL	English as a Foreign Language
ELT	English Language Teaching
ESL	English as a Second Language
GCI	Global Competitiveness Index
GCR	Global Competitiveness Report
GDP	Gross Domestic Product
GITR	Global Information Technology Report
ICT	Information and Communication Technology
IELTS	International English Language Testing System
L1	First language
L2	Second language
LAN	Local Area Network.
NRI	Networked Readiness Index
OALD	Oxford Advanced Learner's Dictionary
PhD	Doctor of Philosophy
SLA	Second Language Acquisition
TEFL	Teaching English as a Foreign Language
TESOL	Teaching English to Speakers of Other Languages
TOEFL	Test of English as a Foreign Language
UNESCO	United Nations Educational, Scientific, and Cultural Organization

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GENERAL INTRODUCTION

1. Statement of the Problem

Learning foreign languages in the age of globalisation and knowledge economy has been improved by the integration of new technologies in the learning process. Over the past two or three decades, teachers and learners took advantage of the many solutions that technology has offered in L2 classrooms.

Nowadays, technology is part of our daily lives to such a point that we can change the title of Austin's book (1962) from *How to Do Things with Words* to *How to Do Things with Words on an Electronic Medium* because language and technology do interrelate in many ways. Chapelle (2001, p. 1) in her book *Computer Applications in Second Language Acquisition* explained that in "the 21st century, everyday language use is so tied to technology that learning language through technology has become a fact of life with important applications for all applied linguists" and for all EFL educators and learners as well.

Literates of the modern era are supposed to know at least one foreign language, along with computer literacy. Accordingly, as the requirements of the job market have influenced language teaching, new graduates are more and more required to have the command of both a foreign language and computer technology to be eligible for the workplace environment.

Writing as one of the four basic language skills poses problems for EFL learners. Most problems are caused by difficulties with grammar, vocabulary, content and mechanics. EFL educators have used a great deal of approaches and techniques to ease the task of composing in English for EFL learners; using technology in writing classrooms was one of those approaches.

Teaching and learning English writing are substantially changing; computers can provide plenty of opportunities for students to practise their writing skills. Today and more than ever before, there is a tendency to practise more and more writing on computers and mobile devices. Likewise, more and more people have adopted the habit of on-screen reading which is becoming the standard instead of paper-based reading. Therefore, it stands to logic that ignoring the role of computers in L2 classrooms is not very rational; Fowler (2006, p. 1) claimed, "[T]he advantages of the computer are so great that it seems almost irresponsible to pass them up."

This research work is about using technology to the advantage of improving EFL students' written products with the help of an educational software: **Oxford iWriter**. This interactive writer is integrated into the *Oxford Advanced Learner's Dictionary* CD-ROM of 2010 and is designed to help EFL students to plan, write, and review their writing in English. The tool provides models of 14 types of writing and explains the key features of each one. It also suggests frameworks for all the different types of writing into which students can add their own content. Student writers also have the dictionary at their disposal to help find vocabulary to express their ideas in plain English. The iWriter helps students to plan, choose vocabulary, write, and check their own written work. It is then up to teachers of writing to provide the relevant feedback.

We think that language learning can be improved via using user-friendly computer software. We stress that this very application is not intended to be a replacement of teachers of writing though.

Because Information and Communication Technologies (ICT) are various, this research work focuses on computer technology. The purpose behind this choice is twofold:

First, including all Information and Communication Technologies in a single work makes the scope of the research unattainable. Second, computers are widespread in recent years and at affordable prices compared with other technologies.

Though integrating technology into ELT is not a novelty nowadays, using it in education in our country seems below the international standards (cf. The Global Information Technology Report 2014, Chapter 5).

2. Aims of the Study

The purpose of the present research work is to investigate the potential of integrating technology into the writing classrooms; it aims to find a relationship between using the Oxford iWriter (independent variable) and the written products of students (dependent variables).

The research work also aims at understanding the various difficulties encountered by students in the writing skill, improving knowledge about the advantages and disadvantages of integrating ICT into writing classrooms, and having a clear idea about students' attitudes towards using ICT. This is not a research about how to teach writing though.

Another aim is to draw the attention of Algerian EFL teachers and learners to the potentials of technology use in educational settings. Technology should play its role in promoting education in our country; we think that it is through experiencing writing with the help of Oxford iWriter (or other educational software) that Algerian students are likely to become active contributors to the content of the World Wide Web. Also, they would be able to find jobs in a very competitive market.

3. Research Questions

The questions that this research work aims at answering are as follows:

- Is there any difference for students to write on computers instead of writing in longhand?
- What are the benefits gained from writing essays with the help of Oxford iWriter?
- In what ways is teaching writing in the language lab different from teaching in conventional classrooms?

4. Hypotheses

To our belief, the benefits of composing on computers are likely to outweigh the disadvantages and problems that may arise. We hypothesize that if students – together with their teachers – use the Oxford iWriter efficiently, they would be able to improve some aspects of their written products. Also, we expect that this software would help student writers overcome common problems encountered in EFL writing classrooms.

5. Method and Research Tools

To test the aforementioned hypothesis, two groups of third-year students at the University of Constantine have been selected to be part of the study. During the academic year 20xx–20xx, we taught written expression to students of the control group without using computer technology and their essays were kept for comparison.

During the next academic year, in an equipped language laboratory, we taught students of the experimental group. They were asked to write essays on computers with the help of the Oxford Advanced Learner's Dictionary CD-ROM containing the interactive tool 'Oxford iWriter'. The researcher taught the same syllabus in both academic years; it covered mainly the comparison and argumentative types of writing.

We then compared between the essays written by the subjects in both groups in order to decide whether the software was helpful or not.

At the end of the semester, a questionnaire was administered to students of the experimental group. The aim was to know more about their computer literacy and to provide feedback about their experience in composing in a language laboratory using the application Oxford iWriter. We also managed to record their on-screen activity while working on computers to know exactly what they did during the writing process using a screen capture utility.

Finally, a questionnaire was administered to a group of EFL teachers in different Algerian universities, namely those of Bejaia, Constantine, Guelma, Jijel, Mila, M'sila, Sidi Bel-Abbes, and the Teacher Training School of Constantine (l'École Normale Supérieure de Constantine); we wanted to investigate their readiness to cope with technology in their classrooms.

6. Structure of the Thesis

This research work is composed of five chapters:

Chapter one consists of a general introduction to writing as an essential skill in language learning. It explores the following issues: approaches to writing instruction; stages of the writing process; writing assessment; complexity of the written products; and the relationship between reading and writing.

Chapter two deals with the theory behind Computer-Assisted Language Learning (CALL). In particular, it examines the following areas: previous research about CALL; advantages of writing on computers; guidelines for teaching and learning with CALL; Computer-Assisted Language Testing (CALT); and limitations of integrating ICT into educational settings.

Chapter three provides an overview about the Oxford iWriter as a tool to help students compose in English; the application is part of the Oxford Advanced Learner's Dictionary CD-ROM of 2010. The chapter outlines many features of the dictionary.

Chapter four is for the empirical study. By analysing the data, we discuss the possibility of enhancing the written products of students – even partially – with the help of the Oxford iWriter: the educational software that was designed specifically to assist EFL students and help them write more effectively in English.

Chapter five explores some practical issues related to technology integration in Algeria: computer literacy; eAlgeria 2013; Algeria's Global Information Technology Report of 2014; rankings of Algerian universities; and recommendations about ICT use in education.

Chapter One: Literature Review

Chapter One: On Second Language Writing

CHAPTER ONE

ON SECOND LANGUAGE WRITING

> "Command of good writing skills is increasingly seen as vital to equip learners for success in the 21st century."
>
> (Hyland, 2003, p. xiii).

Introduction

Listening, reading, writing, and speaking are the four basic language skills. The first two are said to be 'receptive' while the other two are considered to be 'productive'. Of the four basic skills of any language, the ability to read and write is a typical characteristic of literate or educated people. Language skills are contrasted with language levels; the language levels are grammar, vocabulary, and phonology (Thornbury, 2006). Each of the language skills and levels often poses problems for language learners. This chapter provides literature review of some basic concepts related to L2 writing as well as the relationship between reading and writing.

I.1. The Writing Skill

Acquiring the ability to write is one of the basic literacy skills and because knowledge is mainly tested through the written medium, mastering the different writing techniques is often a prerequisite for a successful graduation in academia. Moreover, career opportunities are offered to those mastering the writing skills – among other things – especially in an international language like English; in this respect, Kroll (2003, p. 1) in her paper *Teaching the Next Generation of Second Language Writers* found the following:

> Full participation in the world community, particularly within interconnected economic, technological, and geopolitical realities, can require a fluency in English that goes beyond the spoken language and embraces a variety of uses of the written language as well. Because the English-language cultures (among others) are increasingly literacy-driven cultures . . . and digital-literacy driven . . ., the pursuit of English entails a pursuit of written English, offering those who acquire skill in this code the possibility for improved life chances.

Learning this skill in L1 is one of the most challenging aspects of language learning. As for L2 contexts, the problem seems to be even more complicated. Research in EFL/ESL writing first emerged in the 1980s (Hyland, 2003) and since then, researchers have investigated a lot of issues related to this particular skill.

I.1.1. Producing a Piece of Writing

Composing effectively in a linguistic system other than the mother tongue needs cognitive skills and good knowledge of a number of writing conventions. Like speaking, writing entails an 'encoding' activity that is different from the 'decoding' activity required through reading and listening.

Writing is an active skill that develops gradually but with significant improvements to be expected in the long term. In academic settings, EFL/ESL writing is not a matter of just aligning lexical items on paper or any other medium; it is a complex process that requires from the learner to exert mental efforts, activate his/her background knowledge, and encode in accordance with the conventional standards of the English language (see Figure 1).

According to Canale and Swain's (1980) framework, writers need four competencies at least:

- **Grammatical Competence**: knowledge of grammar, vocabulary, and the language system.
- **Discourse Competence**: knowledge of genre and the rhetorical patterns that create them.
- **Sociolinguistic Competence**: the ability to use language appropriately in different contexts, understanding readers and adopting appropriate authorial attitudes.
- **Strategic Competence**: the ability to use a variety of communicative strategies.

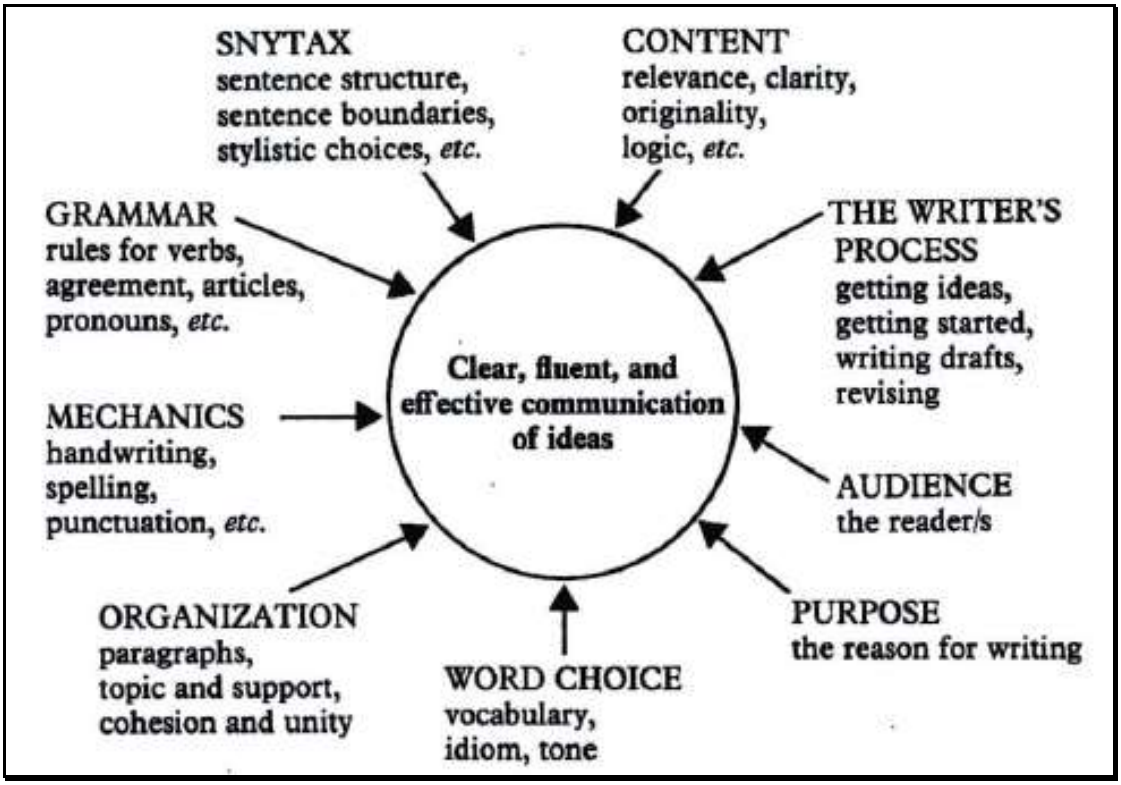


Figure 1: Producing a Piece of Writing (adapted from Raimes, 1983, p. 6)

I.1.2. Types of Writing

There are many types of writing. Hedge (2005) suggested 6 types: personal writing, public writing, creative writing, social writing, study writing, and institutional writing. Table 1 presents the most common types done by students and other users of the language:

PERSONAL WRITING	PUBLIC WRITING	CREATIVE WRITING
Diaries	Applications (for memberships)	Autobiography
Journals	Form filling	Drama
Packing lists	Letters of complaint	Poems
Recipes	Letters of enquiry	Rhymes
Reminders for oneself	Letters of request	Songs
Shopping lists		Stories
SOCIAL WRITING	**STUDY WRITING**	**INSTITUTIONAL WRITING**
Emails	Bibliographies	Advertisements
Instructions to family	Essays	Agendas
Instructions to friends	Making a card index	Applications
Invitations	Making notes while reading	Business letters
Letters	Reports of experiments	Contracts
Notes of condolence	Reports of visits	Curriculum vitae
Notes of congratulations	Reports of workshops	Instructions
Notes of thanks	Reviews	Memoranda
Telephone messages	Summaries	Minutes
	Synopses	Note-making (doctors and other professionals)
	Taking notes from lectures	Posters
		Public notices
		Reports
		Reviews
		Specifications
		Speeches

Table 1: Types of Writing (Hedge, 2005, p. 87)

The above list is not exhaustive; we can think of other types of writing such as commenting on students work, writing a dissertation, commenting on social networking sites or other interactive websites, and creating texts for webpages.

Writing has a communicative effect on readers once the conventions of conveying the message are respected. Both the writer and reader have to share a lot for a successful communication through the written text. Any failure in abiding by the rules and restrictions of the written language could possibly impede the communicative aspect of the written product; it is the role of teachers of writing to train their learners to avoid such flaws in their writings. In this respect, a number of approaches were suggested to help teachers in their task.

I.2. Approaches to L2 Writing Instruction

To help understand and teach the intricacies of the writing skill, a number of approaches to teaching/learning writing have been developed by scholars; each one of these approaches considers writing from a different angle. Yet, "they are more accurately seen as complementary and overlapping perspectives" as well as "curriculum options, [with] each [theory] organizing L2 writing teaching around a different focus" (Hyland, 2003, p. 2). In this section, we focus mainly on the views of writing as a *final* product, *recursive* process, and *contextual* genre.

I.2.1. Product-oriented Approach

Initially, writing success or failure was measured by the success or failure of its final product and the lasting effect on readers. Writing, according to this view, is merely "seen as a product constructed from the writer's command of grammatical and lexical knowledge" and that "writing development is considered to be the result of imitating and manipulating models provided by the teacher." (Hyland, 2003, p. 3). These models provide students with guidance on how to structure their writings in accordance with the author's conventions. The language structures contained in the model text are supposed to be acquired by student writers; it is their duty to learn and then apply them in their own texts.

This approach is based on grammatical *accuracy* in the first place; what matters most are the language structures that are in convention with the required standards of native speakers.

To help students learn these structures and thus improve their final products, repetition of tasks is often a key element in this approach where the focus is on grammatical accuracy. Any failure in retaining these structures would affect negatively the final product of the composition. “Consequently, grammatical and lexical errors are considered as signs of ‘bad’ writing and lack of writing skills on the part of the learner.” (Agustín Llach, 2011, p. 42).

Though retaining ready-made language structures can be beneficial for students, it is argued that this approach restricts the creativity of students as it encourages imitation of certain model texts. Moreover, the focus on form rather than content can lead students to produce rigid texts that carry very little fresh and authentic meaning.

I.2.2. Process-oriented Approach

Researchers came to realize that the end product of any composition is reached after a number of different stages and that writing involves a number of processes. “In composition studies, the interest had begun to shift from textual features to the *process* of writing itself, with researchers from various philosophical and methodological orientations investigating the processes underlying the production of written discourse” (Matsuda, 2003, p. 21). In second language literature, writing as a process was initiated by Zamel (1976) (ibid.).

The process-oriented approach does not focus on the final product only but rather on the process of writing itself. It is through methodological and recursive stages that student writers achieve the final product.

This approach focuses on "recognizing basic cognitive processes as central to writing activity and [stresses] the need to develop students' abilities to plan, define a rhetorical problem, and propose and evaluate solutions." (Hyland, 2003, p. 10).

Moreover, the different stages of the writing process are not necessarily occurring one after the other in a linear progression, but are "recursive, interactive, and potentially simultaneous" stages in the course of a writing task (ibid. p. 11). The same view is advocated by Raimes and Jerskey (2011) who referred the different stages of writing to the ability of *thinking critically*. Figure 2 shows the recursiveness of the writing process.

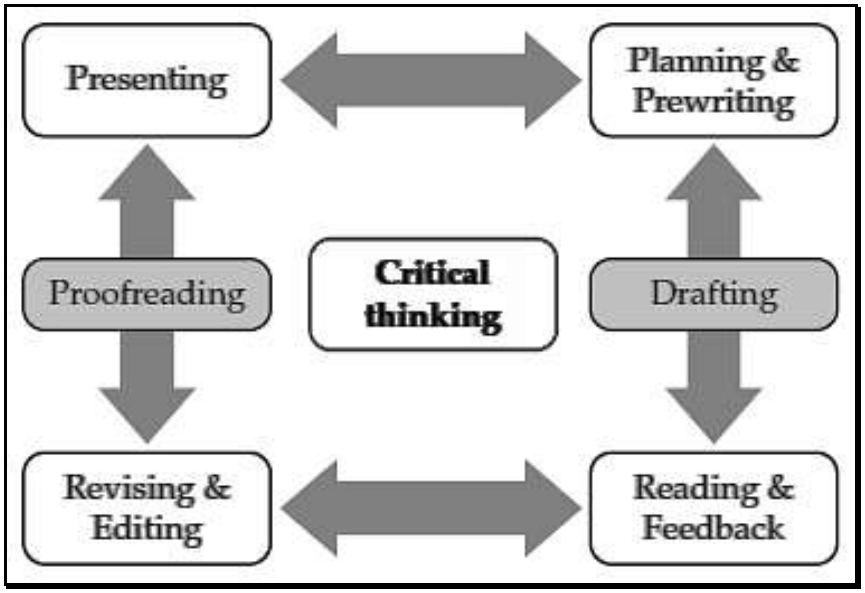


Figure 2: The Writing Stages (adapted from Raimes & Jerskey, 2011, p. 4)

The recursive nature of writing means that improving the end product is the result of improvements in the preceding stages. Such improvements are better achieved via constant response to writing at each stage including teacher-student conferencing and student-student interaction by means of peer feedback. Students are never left alone during the process of composition; teachers are supposed to accompany them from the stage of generating ideas till writing the final draft.

Teaching the different stages of writing is especially useful for improving the written products of pre-intermediate students. While the focus is not restricted to formal aspects of the essay, ideas are also emphasized and assessed by teachers. For the purposes of comparison, Table 2 provides a contrast between the product-based approach and the process-based approach:

PRODUCT APPROACH	**PROCESS APPROACH**
- *Accuracy* is given priority and conventions are taken from the model.	- *Fluency* is given priority.
- Model texts are read, and then features of the genre are highlighted.	▪ The end product of writing is the result of a number of stages: - Ideas are generated by brainstorming and classroom discussion. - Drafts are exchanged so that the student writers become readers. - By responding as readers, student writers realise that they produce something to be read by someone else, and thus they can improve their own drafts. - Drafts are returned and improvements are made based upon peer feedback

Table 2: Product-based vs Process-based Approach (adapted from Nemouchi, 2008, pp. 80-83)

Though teaching writing as a process is extremely helpful, the application of this method turns to be not so feasible with large classes. Responding to all students at each stage is rather a challenging task. Also, the number of stages recommended in a writing task differs from one scholar to another. Similarly, not all writers go through the same processes in composition. Yet, the process approach still "represent[s] the dominant approach in L2 writing teaching today" (Hyland, 2003, p. 14).

I.2.3. Genre-oriented Approach

Writing is communicative, and the final product is supposed to convey a specific message to a given audience. This product needs not to be standardized to all types of audience and to all contexts; it has a purpose on the basis of which meaning is achieved. Thus, the idea of *genre* reflects the varying expectations of an audience. Thornbury (2006, p. 91) provided the following definition of the term genre:

> A genre is any type of spoken or written **discourse** which is used and recognised by members of a particular culture or sub-culture. As a genre becomes established, it acquires a conventionalized structure and often a characteristic vocabulary and grammar.

The *Longman Dictionary of Language Teaching and Applied Linguistics* (2010, p. 245) gave an expanded definition:

> a type of discourse that occurs in a particular setting, that has distinctive and recognizable patterns and norms of organization and structure, and that has particular and distinctive communicative functions. . . . In constructing texts, the writer must employ certain features conventionally associated with texts from the genre in which he or she is writing. In reading a text the reader similarly anticipates certain features of the text based on genre expectations.

A genre-oriented approach considers the *context* of writing because the focus is on the reader rather than the writer. Students are to use vocabulary (register) that is restricted to a given genre. For example, an essay about a football match involves using vocabulary that is normally different from another essay about an historical event or a scientific discovery. Language components are the same, but their usage is different following the difference in the contextual situation.

In this respect Hyland (2003, p. 25) stated, "we [are not supposed] only [to] know what to write about and how to express ourselves, but what to include and leave out, how formal or informal we can be, and when it is appropriate to use the genre at all."

In summary, each one of the previous approaches to teaching writing has its advantages and disadvantages; however, it is usually not applicable to favour one approach over another one. Instead, an *eclectic* method that combines several orientations is often common in the practices of teachers of writing.

I.3. Composing Processes

The outcome of writing is not achieved at once, but is rather reached after following consecutive steps known as stages of the composing process. The number of stages is not clear-cut among scholars. Flower and Hayes (1981) identified **three** stages: planning, writing (or translating), and reviewing. Williams (2003) identified **eight** stages: prewriting, planning, drafting, pausing, reading, revising, editing, and publishing. Yet, he acknowledged that students are not required to follow strictly all the eight stages. Moreover, the order of some writing stages can be adapted by teachers to reflect their pedagogical goals. Broadly speaking, the following six stages are agreed upon and recommended by many scholars (Harmer, 2007; White & Arndt, 1991; Williams, 2003):

I.3.1. Prewriting

This first stage follows directly the selection of a writing prompt. It is the time spent collecting ideas and retrieving the background knowledge that best suits the writing topic. A common practice among teachers is to ask students to brainstorm as many ideas as possible. The activity can be individual, paired, or group-based. Usually, and depending on the writing prompt, students may find some difficulty in finding interesting ideas. In this case, visiting a library or consulting electronic resources is thought to be of great help to students.

After this initial phase of looking for good ideas, students are left with the task of choosing the best suitable ones; choosing what to include and what to leave out has to be decided in this phase. Yet, selection might be challenging and the advice of an authority such as a teacher is appreciated.

I.3.2. Outlining

After the phase of prewriting is over, students come to the stage of creating a plan for their piece of writing. Deciding on the elements of the composition (especially the number of paragraphs) as well as the pattern of organization takes place at this stage. What students get at the end of this stage is just general ideas that need to be supported with relevant details to write paragraphs.

I.3.3. Drafting

At this stage, students start composing following the outline made previously. Students try to write as many details as they can about the preliminary ideas gathered by brainstorming; they do not have to pay much attention to formal errors as these are better dealt with in the remaining stages. In the event they face any lack of L2 vocabulary, they can resort to their L1 temporarily to maintain the flow of their thoughts.

I.3.4. Revising

At this level, much of the revising work must be done. The student writers here turns into readers by re-reading their composition and considering the message they are trying to convey, along with both the form and the content of the essay. Afterwards the text becomes more coherent than it was in the previous stage.

Revising a written product is not necessarily the sole responsibility of the student writer. Other people can be involved in this task. Apart from their teachers, fellow students can provide valuable help to their colleagues. Parents or any other authority that has competence as well as potential readers can revise the work and provide feedback.

I.3.5. Editing

After the feedback obtained from different readers, the text now has to be refined. It is at this stage that the script takes its almost final shape. Hyland (2009, p. 81) resumed the tasks at this stage in three steps: "cutting deadwood, strengthening sentences ... [and] improving style."

I.3.6. Publishing

By this stage, students are ready to hand in their final products to their teachers for evaluation. Other than their respective teachers, pieces of writing can also be shared with a wider audience especially if they are typed. Nowadays and more than any time in the past, students can share their texts online via emails or social networking sites – an overwhelming advantage that is not applicable with conventional ways of writing.

We stress that these stages are not consistent among all student writers. Certain stages may overlap in the practices of some writers and some may be dropped at all.

I.4. Assessing Writing

Assessing the written products of EFL learners is not an easy task for there are different aspects in the scripts that must be taken into consideration. There are scales that help evaluate a piece of writing depending on predefined criteria. This section examines issues related to assessment in the L2 writing class.

I.4.1. Rating Scales

There are three main approaches to rating or scoring a piece of writing: holistic, analytic, and trait-based (see Table 3). Deciding on which rating scale to adopt depends largely on the writing task in question and on the purpose of evaluation itself. In this subsection, we focus on holistic and analytic scoring.

	Specific to a particular writing task	**Generalizable to a class of writing tasks**
Single score	Primary Trait	Holistic
Multiple scores	Multiple Trait	Analytic

Table 3: Types of Rating Scales (adapted from Weigle, 2002, p. 109)

I.4.1.1. Holistic Scales

A holistic approach in assessment, as the name indicates, takes writing in its entirety and attributes an overall score that encompasses all the aspects of writing. A single score is generated based on a general impression by the reader/rater. This method "emphasizes what the writer can do well rather than dwelling on his or her deficiencies" (Hyland, 2003, p. 227). The focus is rather on the message conveyed not on isolated errors.

Weigle (2002, p. 112) noted, "in a typical holistic scoring session, each script is read quickly and then judged against a rating scale, or scoring rubric, that outlines the scoring criteria." An example of such a scale is the *Writing Scoring Rubric* used in the TOEFL iBT Test to assess the quality of writing of test takers. The scale consists of "descriptors of the syntactic and rhetorical qualities of [five] levels of writing proficiency." (ibid.). Each essay is assigned a score from 0 to 5. Table 4 (adapted from ETS, 2012, pp. 209-210) is the holistic scale used to assess essays of TOEFL iBT test takers.

SCORE	Task Description
5	An **ESSAY** at this level largely accomplishes all of the following: ▪ Effectively addresses the topic and task ▪ Is well organized and well developed, using clearly appropriate explanations, exemplifications, and/or details ▪ Displays unity, progression, and coherence ▪ Displays consistent facility in the use of language, demonstrating syntactic variety, appropriate word choice, and idiomaticity, though it may have minor lexical or grammatical errors
4	An **ESSAY** at this level largely accomplishes all of the following: ▪ Addresses the topic and task well, though some points may not be fully Elaborated ▪ Is generally well organized and well developed, using appropriate and sufficient explanations, exemplifications, and/or details ▪ Displays unity, progression, and coherence, though it may contain occasional redundancy, digression, or unclear connections ▪ Displays facility in the use of language, demonstrating syntactic variety and range of vocabulary, though it will probably have occasional noticeable minor errors in structure, word form, or use of idiomatic language that do not interfere with meaning
3	An **ESSAY** at this level is marked by one or more of the following: ▪ Addresses the topic and task using somewhat developed explanations, exemplifications, and/or details ▪ Displays unity, progression, and coherence, though connection of ideas may be occasionally obscured ▪ May demonstrate inconsistent facility in sentence formation and word choice that may result in lack of clarity and occasionally obscure meaning ▪ May display accurate but limited range of syntactic structures and vocabulary
2	An **ESSAY** at this level may reveal one or more of the following weaknesses: ▪ Limited development in response to the topic and task ▪ Inadequate organization or connection of ideas ▪ Inappropriate or insufficient exemplifications, explanations, or details to support or illustrate generalizations in response to the task ▪ A noticeably inappropriate choice of words or word forms ▪ An accumulation of errors in sentence structure and/or usage
1	An **ESSAY** at this level is seriously flawed by one or more of the following weaknesses: ▪ Serious disorganization or underdevelopment ▪ Little or no detail, or irrelevant specifics, or questionable responsiveness to the task ▪ Serious and frequent errors in sentence structure or usage
0	An **ESSAY** at this level merely copies words from the topic, rejects the topic, or is otherwise not connected to the topic, is written in a foreign language, consists of keystroke characters, or is blank.

Table 4: TOEFL iBT Independent Writing Scoring Rubric

This type of writing assessment is of relative easiness of use, as it does not require specific attention to each feature of the composition; the response itself does not require much time either.

The holistic approach to scoring is widely used and adapted by teachers of writing all over the world for its practical easiness in assessing large numbers of essays. Additionally, it resembles the natural way of reading the script form start to finish. Then, based on an overall impression, an evaluation of the content may follow.

However, it is thought that different readers/raters might respond differently to the same text and, thus, assign different scores. Moreover, the global score obtained does overlook the underlying features of a piece of writing and does not provide students with *diagnostic information* that details their positive and negative points of performance (Hyland, 2003).

It is also thought that any failure in any aspect of writing would influence negatively the evaluation of the other aspects. For example, recurrent spelling mistakes can impact the rater and divert his/her focus from the message or ideas. It might be then rational to measure components of a composition independently because "we cannot assume that growth in language use is a linear or unitary process with various components of proficiency or development progressing at the same rate." (Wolfe-Quintero, Inagaki, & Kim, 1998, p. 7)

I.4.1.2. Analytic Scales

The analytical method of assessment contrasts with the holistic method in that it considers each feature of writing independently; for each aspect, the reader/rater assigns a score which is not necessarily affected by a lower performance of the learner in the other features. Such features may include: vocabulary, grammar, spelling, punctuation, ideas and organization.

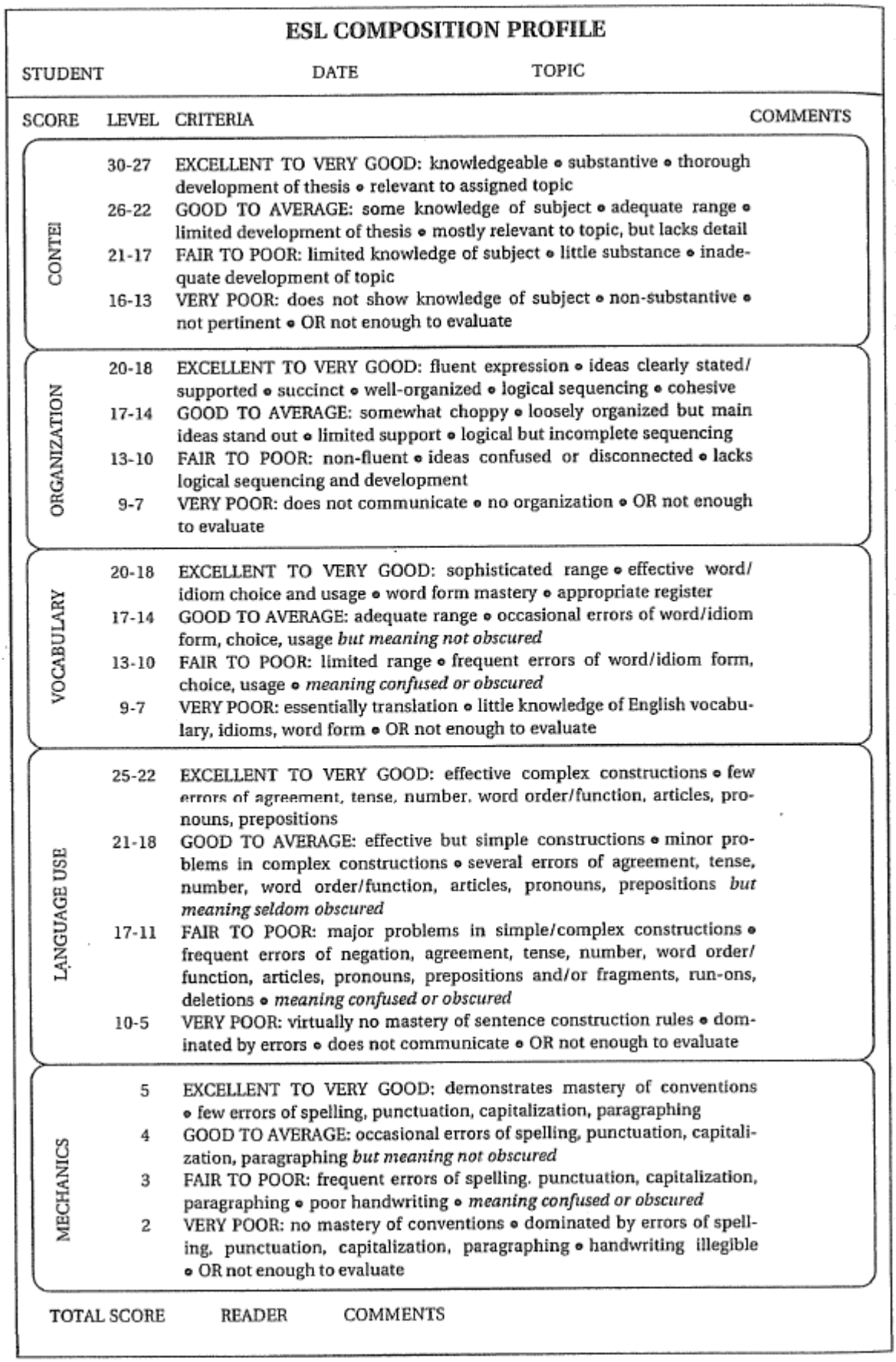
"The analytic writing assessment is, thus, based on the assumption that each feature of writing should be scored separately and [that] the final score is made up of the sum of separate scores" (Nemouchi, 2008, p. 129).

The number of aspects that are taken into consideration as well as the score weight attributed to each aspect might differ depending on the type of script and objectives of the assessment. Each aspect of writing receives due consideration from the rater and no feature is rated at the expense of other features. In this sense, Hyland (2003, p. 229) explained:

> The fact that raters must give a score for each category helps ensure features are not collapsed into one and so provides more information than a single holistic score. . . . while the fact that they give more detailed information means they are also useful as diagnostic and teaching tools.

An illustration of this type of scoring is the scale created by Jacobs *et al*. (1981) under the name of *ESL Composition Profile*, one of the widely used analytic scales (Weigle, 2002; Hughes, 2003). It focuses on five aspects of writing that receive different scores (the total score being 100 points): CONTENT (30 points), ORGANIZATION (20 points), VOCABULARY (20 points), LANGUAGE USE (25 points), and MECHANICS (5 points) (see Figure 3).

In spite of the advantages of analytic scales, there are a number of drawbacks. First, assessing scripts analytically is rather time-consuming; devoting time and effort to evaluate each feature of the composition separately is unfeasible particularly when assessing a huge number of essays. More than that, analytic evaluation might be more practical for speaking rather than writing.



ESL COMPOSITION PROFILE

STUDENT DATE TOPIC

	SCORE	LEVEL	CRITERIA	COMMENTS
CONTENT		30-27	EXCELLENT TO VERY GOOD: knowledgeable • substantive • thorough development of thesis • relevant to assigned topic	
		26-22	GOOD TO AVERAGE: some knowledge of subject • adequate range • limited development of thesis • mostly relevant to topic, but lacks detail	
		21-17	FAIR TO POOR: limited knowledge of subject • little substance • inadequate development of topic	
		16-13	VERY POOR: does not show knowledge of subject • non-substantive • not pertinent • OR not enough to evaluate	
ORGANIZATION		20-18	EXCELLENT TO VERY GOOD: fluent expression • ideas clearly stated/supported • succinct • well-organized • logical sequencing • cohesive	
		17-14	GOOD TO AVERAGE: somewhat choppy • loosely organized but main ideas stand out • limited support • logical but incomplete sequencing	
		13-10	FAIR TO POOR: non-fluent • ideas confused or disconnected • lacks logical sequencing and development	
		9-7	VERY POOR: does not communicate • no organization • OR not enough to evaluate	
VOCABULARY		20-18	EXCELLENT TO VERY GOOD: sophisticated range • effective word/idiom choice and usage • word form mastery • appropriate register	
		17-14	GOOD TO AVERAGE: adequate range • occasional errors of word/idiom form, choice, usage *but meaning not obscured*	
		13-10	FAIR TO POOR: limited range • frequent errors of word/idiom form, choice, usage • *meaning confused or obscured*	
		9-7	VERY POOR: essentially translation • little knowledge of English vocabulary, idioms, word form • OR not enough to evaluate	
LANGUAGE USE		25-22	EXCELLENT TO VERY GOOD: effective complex constructions • few errors of agreement, tense, number, word order/function, articles, pronouns, prepositions	
		21-18	GOOD TO AVERAGE: effective but simple constructions • minor problems in complex constructions • several errors of agreement, tense, number, word order/function, articles, pronouns, prepositions *but meaning seldom obscured*	
		17-11	FAIR TO POOR: major problems in simple/complex constructions • frequent errors of negation, agreement, tense, number, word order/function, articles, pronouns, prepositions and/or fragments, run-ons, deletions • *meaning confused or obscured*	
		10-5	VERY POOR: virtually no mastery of sentence construction rules • dominated by errors • does not communicate • OR not enough to evaluate	
MECHANICS		5	EXCELLENT TO VERY GOOD: demonstrates mastery of conventions • few errors of spelling, punctuation, capitalization, paragraphing	
		4	GOOD TO AVERAGE: occasional errors of spelling, punctuation, capitalization, paragraphing *but meaning not obscured*	
		3	FAIR TO POOR: frequent errors of spelling, punctuation, capitalization, paragraphing • poor handwriting • *meaning confused or obscured*	
		2	VERY POOR: no mastery of conventions • dominated by errors of spelling, punctuation, capitalization, paragraphing • handwriting illegible • OR not enough to evaluate	

TOTAL SCORE READER COMMENTS

Figure 3: Jacobs et al.'s (1981) Scoring Profile (adapted from Hughes, 2003, p. 104)

Second, the issue of reliability arises as it is difficult to reach similar results among raters. This is because of the "difficulty in providing clear-cut and unambiguous definitions for each descriptor" of each aspect and its levels of achievement (Agustín Llach, 2011). Similarly, assessing single features of texts without being influenced by low achievements in other features is questionable, as it requires high cognitive efforts.

Table 5 (adapted from Weigle, 2002, p. 121) contrasts between holistic and analytic scales based on five qualities of test effectiveness: reliability, construct validity, practicality, impact, and authenticity:

QUALITY	HOLISTIC SCALE	ANALYTIC SCALE
RELIABILITY	Lower than analytic but still acceptable	Higher than holistic
CONSTRUCT VALIDITY	Holistic scale assumes that all relevant aspects of writing ability develop at the same rate and can thus be captured in a single score; holistic scores correlate with superficial aspects such as length and handwriting	Analytic scales more appropriate for L2 writers as different aspects of writing ability develop at different rates
PRACTICALITY	Relatively fast and easy	Time-consuming; expensive
IMPACT	Single score may mask an uneven writing profile and may be misleading for placement	More scales provide useful diagnostic information for placement and/or instruction; more useful for rater training
AUTHENTICITY	It is argued that reading holistically is a more natural process than reading analytically	Raters may read holistically and adjust analytic scores to match holistic impression

Table 5: Holistic Scales vs. Analytic Scales

In the practices of teachers of writing, an *eclectic* approach that combines holistic and analytic methods is often chosen and this depends on the writing task and the purpose of evaluation.

I.4.2. Peer Evaluation

Other than from their teachers, ESL students can receive feedback on their compositions from their fellows. It is argued that this kind of feedback is beneficial for both the student writer and the student reader.

Reading and commenting on others' compositions is likely to help students learn from each other by discussing possible corrections and improvements in their essays, on the one hand, and also to raise students' awareness of the audience expectations and needs – and thus establishing the communicative aspect of writing – on the other hand. Yet, "peer evaluation should be achieved independently from the teacher's authority" for it may "decrease the learners' motivation." (Nemouchi, 2008, p. 112).

To help students with the task of peer evaluation, and depending on their level of instruction, clear guidelines should be provided at the onset of the task. Peer editing worksheets can be useful in this respect (see Figure 4). They should not be long or too detailed; they are supposed to ask precise and limited questions about the form and content of the composition but not exhaustive to every aspect of writing.

What is Peer Editing?

Peer editing means responding with appreciation and positive criticism to your classmates' writing. It is an important part of this course because it can:

✓ Help you become more aware of your reader when writing and revising

✓ Help you become more sensitive to problems in your writing and more confident in correcting them

Rules for Peer responding:

- ✓ Be respectful of your classmate's work
- ✓ Be conscientious – read carefully and think about what the writer is trying to say
- ✓ Be tidy and legible in your comments
- ✓ Be encouraging and make suggestions
- ✓ Be specific with comments

Remember: You do not need to be an expert at grammar. Your best help is as a reader and that you know when you have been interested, entertained, persuaded, or confused

Figure 4: A Students' Sheet for Peer Response (adapted from Hyland, 2003, p. 202)

However, the fact of commenting on written productions of fellows is not a drawback-free activity. Due to limited competence, students are likely to provide inaccurate feedback or yet erroneous corrections.

Moreover, peers can give derogatory remarks which are something unfavourable. Some students might even underestimate their peers' comments preferring feedback from more authoritative raters such as their teachers. A good practice here is to focus the attention of students on given points by providing clear instructions.

Peer feedback is not intended to replace feedback from teachers; students' limited proficiency cannot in anyway compete with the teachers' expertise in responding to written products.

I.4.3. Errors in Written Products

Writing in a second or foreign language is a challenging task. Before graduation, EFL/ESL students are required to acquire writing skills that enable them to communicate effectively via the written medium. However, when composing in English, students recurrently commit a lot of mistakes and errors that impact negatively on the readability and understanding of their texts.

Ferris (2011, p. 3) – in her book *Treatment of Error in Second Language Student Writing* – gave a workable definition of the word *error*: "Errors are morphological, syntactic, and lexical forms that deviate from rules of the target language, violating the expectations of literate adult native speakers." She also distinguished between *treatable* and *untreatable* errors (ibid. p. 36):

> A treatable error is related to a linguistic structure that occurs in a rule-governed way. It is treatable because the student writer can be pointed to a grammar book or set or rules to resolve the problem. An untreatable error, on the other hand, is idiosyncratic, and the student will need to utilize acquired knowledge of the language to self-correct it. Examples of treatable errors include verb tense and form; subject-verb agreement; article usage; plural and possessive noun endings; sentence fragments; run-ons and comma splices; some errors in word form; and some errors in punctuation, capitalization, and spelling. Untreatable errors include most word choice errors, with the possible exception of some pronoun and preposition usage, and unidiomatic sentence structure (e.g., problems with word order or with missing or unnecessary words).

Errors and mistakes differ a lot in their types and a clear-cut categorisation is not always feasible. Moreover, an error found in a word or a phrase can be composed of different types of errors. By way of illustration, a student writer used the noun phrase *the great *feraun* to mean *the Sphinx*. Here, the lexical item *pharaoh* was misspelt because of a negative transfer from the Arabic word فرعون(transliteration).

For practical purposes, errors can be classified into broad categories (see Figure 5).

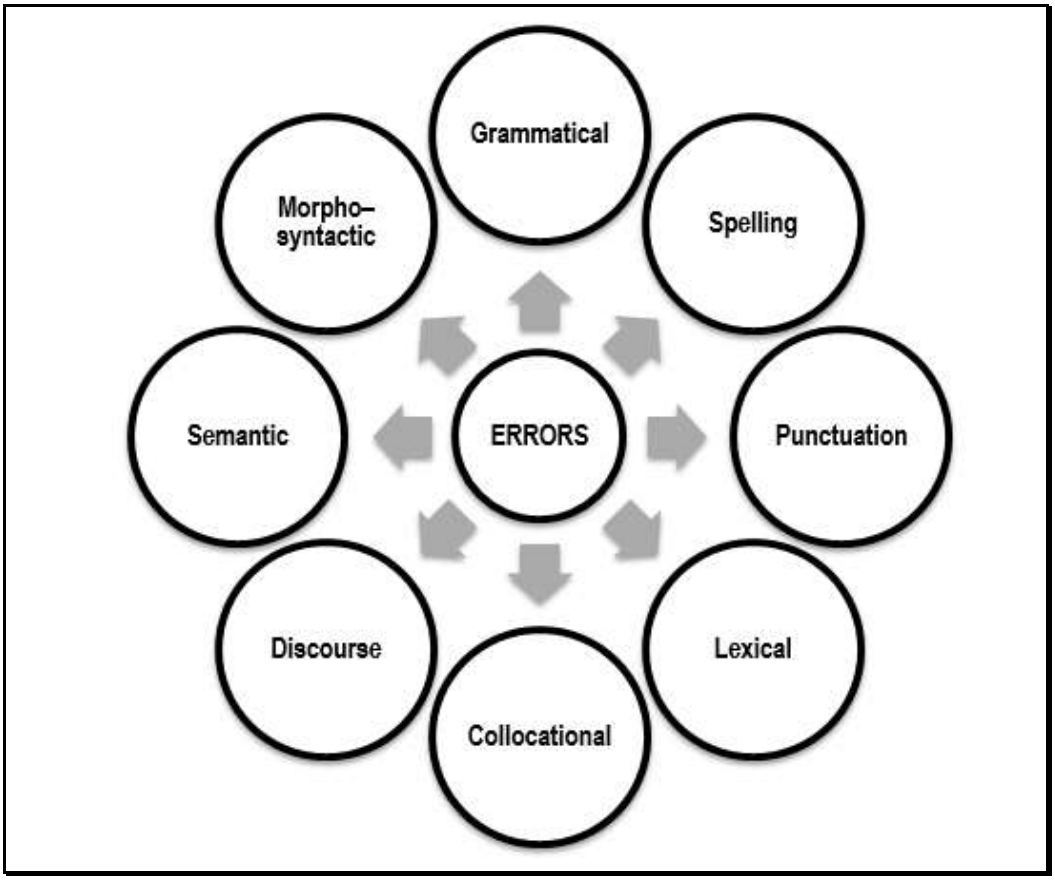


Figure 5: Error Types

Of the errors made by EFL/ESL student writers, collocational errors are common. Collocations are restricted combinations of words that are important in any language; any failure to use the right collocates reduces the naturalness of the text and rather poses obstacles in communication (Boudjadar, 2009).

Choosing the right collocates for words seems troublesome for some learners of English. While composing, students tend to associate lexical items to each other randomly and without considering any restrictions in the use of collocations.

Another common type of errors is errors of mechanics. These errors are very common in students' writings. They impact more the form of the text but usually the message can be conveyed to readers. We find under this type errors related to punctuation, spelling, and capitalization.

The number of errors found in a composition in reference to its length can serve as a measure of its quality. Indeed, "grammatical and lexical errors are considered as signs of 'bad' writing and lack of writing skills on the part of the learner." (Agustín Llach, 2011, p. 42).

I.5. Complexity of Written Products

The complexity of a written product reveals its quality vis-à-vis the conventional standards of the target language. In L2 writing, a composition is said to be complex if it has features that are typical of advanced level or professional writers (Thornbury, 2006, p. 40). These features include the following (ibid.):

- The amount of **subordination**, including the use of **complex sentences**. Indeed, according to Jacob et al.'s scoring profile (1981), a piece of writing is said to be EXCELLENT to VERY GOOD if it uses effective complex constructions.
- The use of pronouns for back **reference**;
- The proportion of **lexical verbs** to **linking verbs**: the more of the former, the more complex is the piece of writing;
- The proportion of **vocabulary words** to **grammatical words**: the more of the former, the more complex is the piece of writing;
- The frequent use of **conjunctions**.

By way of illustration, Thornbury (2006, p. 40) gave two paragraphs written by two learners to clarify the meaning of complexity; both learners described a shopping experience using very simple English, yet paragraph #2 shows greater complexity on all counts:

#1 Two months ago I went sightseeing in London with my friend. We went to Trafalgar Square and around here around there, we walked and by accident we saw a market and my friend wanted to see clothes and we went to market and we saw bag and clothes, and she wanted to buy clothes, and she found her favourite clothes and I also wanted to buy her similar clothes, we tried to try to wear the clothes. I thought at the time I thought that clothes suit me but shop assistant said cost down if we bought two clothes it cost down.

#2 My story was that at Christmas I wanted to buy a present, and I wanted to buy a Walkman, so I went to a shop in Ealing and I chose the Walkman, but I didn't notice that it didn't have auto-reverse and … things like this, so I wanted to replace it, so I went to the shop again, and I asked to the sales assistants to give it back. He didn't know what to do so he called the manager. It was a lady, so when she came she said that it was impossible because she suggested that I used this Walkman, and I didn't use it so she said that the box was opened, but it had to be opened, because when they sell something they have to check that it is inside.

In what follows, we consider vocabulary use as a measure of complexity.

I.5.1. Vocabulary Words

They are also known as content or lexical words; they include verbs, nouns, adjectives, and adverbs. They are considered open classes. "They carry higher content information and are syntactically structured by the grammatical words." (Laraba, 2007, p. 158)

As regards complexity, and "since lexical words are the words which primarily convey information, a text is considered 'dense' if it contains many lexical words relative to the total number of words" (Laufer & Nation, 1995, p. 309).

I.5.2. Grammatical Words

They are also known as function words; they include prepositions, determiners, pronouns, and conjunctions. They are considered closed classes (together with auxiliary verbs) because they rarely admit new words.

I.5.3. Size of Vocabulary Knowledge

Composing written products entails recalling appropriate vocabulary then using these language items according to the grammatical rules of the target language. Here, there is a distinction between *productive* or active vocabulary (that learners use in speech and writing) and *receptive* or passive vocabulary (that can be understood while reading or listening) with the latter far exceeding the former. In this respect, Gairns & Redman (1986, p. 65) found that "an educated [native] speaker is able to 'understand' between 45,000 and 60,000 items, although no native speaker would pretend that his productive vocabulary would approach this figure."

However, Goulden, Nation, and Read (1990, p. 356) did not report the same figures. In their research paper *How Large Can a Receptive Vocabulary Be?* they found that "the average educated native speaker has a vocabulary of around 17,000 base words and [that s/he] has acquired them at the average rate of about two to three words per day."

Unlike native speakers, the learners' lexicon does not have to be extremely rich; basic vocabulary would do well for any language user to communicate intelligibly with other users of the language. However, research studies varied somewhat as to the minimum lexical items.

Laufer (as cited in Laraba, 2007) concluded, "both earlier frequency counts and later empirical studies of L2 vocabulary and reading suggest a similar vocabulary minimum, which is 3,000[1] word families, or 5,000 lexical items." (Laufer, 1996, p. 24)

I.5.4. Lexical Richness

In their research paper, Laufer and Nation (1995) used the term *lexical richness* in L2 written production to refer to vocabulary use in writing. They also defined some measures of lexical richness in written productions: Lexical Originality, Lexical Density, and Lexical Sophistication.

The **Lexical Originality** is the percentage of words in a given piece of writing that are used by one particular writer and no one else in the group. As for **Lexical Density**, it is defined as the percentage of lexical words (tokens) in the text. Whereas, **Lexical Sophistication** is the percentage of *advanced* words in the text. "What is labelled as 'advanced' would depend on the researcher's definition. To decide what vocabulary is advanced, it is necessary to take the learner's level into consideration." (Laufer & Nation, 1995, p. 309)

Due to some limitations in the previous measures, Laufer and Nation (1995) suggested anothre measure of lexical richness of written production – the **Lexical Frequency Profile** which "shows the percentage of words a learner uses at different vocabulary frequency levels in his/her writing . . . [by suggesting] two different measures one for less proficient students, [and] the other for advanced students." (p. 311)

[1] cf. section III. 3 of Chapter 3

As far as this research is concerned, we used the Lexical Density as a measure of lexical richness for its simplicity and practicality; it can be defined mathematically as follows:

$$\textbf{\textit{Lexical Density}} = \frac{\text{Number of lexical words}}{\text{Total number of words in the text}} \times 100$$

In addition to complexity, other criteria help determine the quality of written products. Table 6 summarises six of these criteria (Agustín Llach, 2011, p. 61):

SCORING CRITERIA	DESCRIPTOR
Communicability	- Does the text communicate well? - Can it be understood?
Content	- Is the text relevant to the task and to the prompt? - Does the text successfully and effectively respond to the writing task?
Rhetorical Organisation (Discourse Features)	- Is the text organised according to the rhetorical conventions of the genre? - Is it coherent and cohesive? - Do the main ideas stand out? - Are they correctly developed?
Vocabulary	- Does the text use adequate vocabulary – a wide range of vocabulary? - Is the lexical choice appropriate? - Are there any errors of word choice? - Do they interfere with communication? Is meaning obscured?
Syntactic Accuracy	- Does the text use appropriate structures? - Are there any errors of morphology or syntax? - Do they interfere with communication? Is meaning obscured?
Mechanics	- Does the text comply with the spelling, punctuation and capitalisation conventions? - Are there many errors? - Do they interfere with communication? Is meaning obscured?

Table 6: Some Qualitative Writing Assessment Criteria

I.6. Reading and Writing

Reading and writing are closely interrelated. Usually, the purpose of any script is to be read by an audience. Research suggests that L2 writing skills cannot be acquired successfully by practice in writing alone but also need to be supported with extensive reading (Krashen, 2004).

Reading provides the writer with input. In this respect, Hyland (2003, p. 17) stated, "reading provides input for both content and the appropriate means of its expression – a positive link that reflects the wider role of reading in developing composing skills."

In L1 contexts, there seems to be a consensus about the impact of reading on improving the writing abilities of learners. Stotsky (as cited in Eisterhold, 1990, p. 88) found the following:

- Reading achievement and writing ability do correlate: "Better writers tend to be better readers."
- Writing quality is affected by reading experience: "Better writers read more than poorer writers."
- Reading ability impacts the syntactic *complexity* of the composition: "Better readers tend to produce more syntactically mature writing than poorer readers."

Similarly, students need to read extensively in the second/foreign language if they are to develop their writing skills. If applicable, teachers should encourage and reward this practice among students. In the 1980's, Krashen introduced the *Extensive Reading Hypothesis* arguing that a reader reading extensively will improve his/her writing abilities with time.

Moreover, “research has shown that extensive reading leads to better vocabulary knowledge, better semantic memory, better metalinguistic awareness, and broader knowledge of the world.” (Grabe, 2003, p. 249). Consequently, reading will strengthen the written products of student writers.

Conclusion

In this chapter, we have reviewed some basic issues related to the teaching and learning of L2 writing.

In Chapter 2, we provide an overview of the history of technology use in English Language Teaching with a focus on the writing skill.

Chapter Two: Computer-Assisted Language Learning and Writing

Chapter Two

Computer-Assisted Language Learning

CHAPTER TWO

COMPUTER-ASSISTED LANGUAGE LEARNING

Technology is not a method but a resource which can support a variety of approaches.

(Warschauer, 2002)

Introduction

In this chapter, we provide an overview of the history of computer technology use in ELT, the advantages and disadvantages of integrating computer technology into ELT, and the assessment of language through technology. In this short account, we will maintain the focus on the writing skill.

II.1. Computers, Writing, and ELT

Nowadays computers are used practically in so many human activities that the debate of whether to integrate them or not into education seems outdated for the many advantages they brought to the learning process.

II.1.1. Research on Computers and Writing

After the introduction of computers into the workplace, educators immediately appreciated their practicality. Back in the 1980s and 1990s, conducting research into computers' impact on the learning process was quite a state-of-the-art trend among scholars in developed countries. By way of illustration, an academic journal entitled *Computers and Composition* was founded back in 1983; the journal was dedicated to research about writing done on computers. Table 7 gives some examples of research work carried out in the 1980s and 1990s in the USA.

Author	Year	Title of Thesis	Degree	University
Pollack	1985	Exploratory study of the use of the computer for revision to improve student writing	PhD	University of Southern California
Kaplan	1986	Computers and composition: Improving students' written performance	EdD	University of Massachusetts at Amherst
Svacina	1988	The computer as a tool in teaching basic writing to college freshman	PhD	University of Illinois at Urbana-Champaign
Baldursson	1989	Technology, computer use, and the pedagogy of writing	PhD	University of Alberta
Butler-Pascoe	1990	Effective uses of computer technology in the development of writing skills of students enrolled in a college-level ESL program	EdD	United States International University
LeBlanc	1990	The development of computer-aided composition software and its implications for composition	PhD	University of Massachusetts at Amherst
Rahman	1990	Some effects of computers on ESL student writing	PhD	University of Pittsburgh
McCormick	1993	A criticism of computer assisted composing	PhD	Indiana University of Pennsylvania
Pullen	1993	A comparison of writing performance using conventional and computer-based writing techniques	EdD	Memphis State University
Devers	1994	Writing and computers: The effects of word processing on student attitude toward writing, student attitude toward computers, and student writing quality	PhD	Oakland University
Kromhout	1995	Computer-aided composition instruction	EdD	Florida Atlantic University
Petelin	1996	Computers and composing: From the academy to the workplace	PhD	Griffith University
Vines	1997	An assessment of the effects of computer-based writing instruction upon the teaching of ESL	PhD	University of Florida
Almozaini	1998	A descriptive case study of ESL teachers' beliefs about and pedagogy in computer-assisted writing instruction	PhD	Indiana University of Pennsylvania

Table 7: Examples of Postgraduate Research on Writing and Computers

Similarly, many research articles published during the 1980s and 1990s investigated the potential advantages of computers for the writing instruction; in Table 8 are exemplified some of these academic articles.

Both tables show that the concern of scholars then was mainly the utility of word-processing programs and writing centres to both L1 and L2 learners, along with the contrast of computer composition with the conventional way of writing. Now the fascination of using desktop computers in teaching and learning is considered old-fashioned in developed countries.

Interestingly, as technology is more and more available in developing countries at a reasonable cost, the tendency of using ICT tools in education is becoming the standard. Teachers come to realize that using ICT tools in education is unavoidable to keep pace with the changes in pedagogy, hoping that these technologies would boost the level of their students consequently.

The improvement brought by computers to language teaching and learning was tangible. However, Hyland (2003, p. 145) found that "computers are no more likely to bring about learning improvements by themselves . . . Technology is not a method but a resource which can support a variety of approaches."

Author	Year	Title of article	Periodical
Hennings	1983	Words processed here: Write with your computer	The Phi Delta Kappan
Kotler & Anandam	1983	A partnership of teacher and computer in teaching writing	College Composition & Communication
Levin & Boruta	1983	Writing with computers in classrooms	Theory into Practice
Withey	1983	The computer and writing	The English Journal
Schwartz	1984	Teaching writing with computer aids	College English
Smith, Kiefer, & Gingrich	1984	Computers come of age in writing instruction	Computers & the Humanities
Petersen, Selfe, & Wahlstrom	1984	Computer-assisted instruction and the writing process	College Composition & Communication
Danielson	1985	The writer and the computer	Computers & the Humanities
Dinan, Gagnon, & Taylor	1986	Integrating computers into the writing classroom: Some guidelines	Computers & Composition
Strickland	1987	Computers, invention, and the power to change student writing	Computers & Composition
Stracke	1988	The effects of a full-service computer room on student writing	Computers & Composition
Doyle	1988	Creative applications of computer assisted reading and writing instruction	Journal of Reading
Bolter	1989	Beyond word processing: The computer as a new writing space	Language & Communication
Lake	1989	Computers in the classroom: Teaching writing in the 1990s	The English Journal
Lê	1989	Computers as partners in writing: A linguistic perspective	Journal of Reading
Scharton	1989	The third person: The role of the computer in writing centers	Computers & Composition
Weiss	1989	A process of composing with computers	Computers & Composition
Webster Newbold	1990	Computers and writing assessment: A preliminary view	Computers & Composition
Gerrard	1993	Computers and composition: Rethinking our values	Computers & Composition
Hyland	1993	ESL computer writers: What can we do to help?	System
Phinney & Khouri	1993	Computers, revision, and ESL writers: The role of experience	Journal of L2 Writing
George	1995	Wonder of it all: Computers, writing centers, and the new world	Computers & Composition
Grimm	1995	Computer centers and writing centers: An argument for ballast	Computers & Composition
Sullivan & Pratt	1996	A comparative study of two ESL writing environments: A computer-assisted classroom and a traditional oral classroom	System
Takayoshi	1996	The shape of electronic writing: Evaluating and assessing computer-assisted writing processes and products	Computers & Composition
Braine	1997	Beyond word processing: Networked computers in ESL writing classes	Computers & Composition
Hubbard & Walberg	1997	Student views of computer-composition effects on writing	Computers & Composition

Table 8: Examples of Studies on Computers and Writing in the 1980s and 1990s

II.1.2. Defining CALL

The concept of Computer-Assisted Language Learning (CALL) relates to a number of fields such as applied linguistics, SLA, psychology, computational linguistics, and computer science.

As for the definition of CALL, "basically, it means using computers to support language teaching and learning in some way" (Egbert, 2005, p. 3). Another term that refers to the same concept is *Computer-Enhanced Language Learning* (CELL). Both terms come under the general term *Technology-Enhanced Language Learning* (TELL) though "the main concern of CALL is the language not the technology itself." (ibid. p. 4)

In recent years, researchers have used a number of terms related to computer technology and language learning. Table 9 gives some examples:

Computer	Assisted /Aided /Based	Composition Education Instruction Language Learning Language Testing Writing
	Based	Assessment Training
	Mediated	Composition Communication
	Adaptive	Testing
Technology	Enhanced /Mediated	Language Learning
Web	Based /Enhanced	Instruction Learning

Table 9: Terms Relating to Computer Technology in Education

II.1.3. Defining ICT

In recent years, there has been a great number of books, magazines, journal articles, and international symposia on using technology to enhance teaching and learning. There are even international organizations dedicated to this subject matter, such as the *International Society for Technology in Education* and the *International Organization for Science and Technology Education*, which aim to advance technology use in the field of education all over the world.

Also, there is a prize under the name of *UNESCO King Hamad ibn Issa al-Khalifa Prize for the Use of Information and Communication Technologies in Education* that was instituted in 2005. The prize is awarded annually to institutions or individuals who excel in using ICT to the advantage of education.

As regards the definition, The *Oxford Advanced Learner's Dictionary* of 2010 (p. 742) explained the meaning of ICT as follows: "the study of the use of computers, the Internet, video, and other technology as a subject at school." Khosrow-Pour (2007, p. 328) provided a broader definition in the *Dictionary of Information Science and Technology*:

> While often meaning different things in different timescales, places, and contexts, ICTs describe all media and a mix of converging technology tools involved in the dynamic transfer and storage of analog and digital data. In addition to Internet-based technologies such as computers, telephones, and networks, ICTs in a broad sense include digital television, cable and satellite technologies, music formats . . . DVDs, and CDs. ICTs may be used to facilitate remote human interaction for good and evil purposes. ICTs are used to increase human communication; broaden education, literacy, and knowledge; and enhance social, cultural, political, and economic capacity.

The concept of CALL also relates to ICT as follows:

> CALL embraces a wide range of information and communications technology applications and approaches to teaching and learning foreign languages, from the "traditional" drill-and-practice programs that characterised CALL in the 1960s and 1970s to more recent manifestations . . . It also extends to the use of corpora and concordancers, interactive whiteboards, Computer-Mediated Communication (CMC), language learning in virtual worlds, and Mobile-Assisted Language Learning (MALL). ("Computer-assisted language learning", 2015)

II.2. History of CALL

Back in 1980, at the 14th annual TESOL convention in San Francisco (California, USA), Chapelle and Jamieson presented a workshop on how to use computer software for teaching English as a second language. The presenters had intended the workshop as a demonstration of existing ESL teaching software with an explanation of how such software is written and used in the curriculum. (Chapelle, 2001, p. 1)

In 1981, there was a symposium on Computer Assisted Learning (CAL) which was held at the University of Leeds. At that time, there was increasing interest in computer applications in education. The participants exceeded 400 and delegates were drawn from some 15 countries of origin outside the United Kingdom. The paper sessions of the symposium were arranged within four broad themes (Smith, 1981, p. vii):

1. **Hardware interaction with CAL**: graphics developments, microcomputer applications, and devices for special education.
2. **Fundamental aspects of CAL**: software design, learning and problem solving, intelligent teaching systems, and remedial teaching.

3. Experimental studies with CAL: applications in education (including language learning), commerce and industry, simulations, database applications and computer managed instruction.

4. Future directions: tele-software and information/software exchange.

Historically, Chappelle (2001, pp. 7–26) in her book *Computer applications in Second Language Acquisition* suggested four main phases to CALL development since the 1980s: hardware, software, Local Area Networks (LANs), and the Internet.

Firstly, microcomputers became widely available to language teachers in the early 1980s. After a while, computers that are more sophisticated appeared with more abilities in memory, audio, and graphics.

Secondly, software developed because of the development of microcomputers. For example, text analysis programs (also called grammar checkers) became user-friendly for computer users. In addition, concordance software gave significant advantages to both teachers and learners.

Thirdly, Local Area Networks (LANs) in the early 1990s increased the interaction between local computer users. LAN meant that computers were related to each other locally and the interaction was not anymore individual and occurring on the same machine.

Fourthly, by the mid-1990s, the Internet broke all the limitations and became the international network of all networks. This brought new horizons to CALL practices; students could interact on an international scale by email, which was then appreciated and used by educators in language learning. By way of illustration, back in 1995 Warschauer published a book entitled *E-mail for English Teaching: Bringing the Internet and Computer Learning Networks into the Language Classroom*.

Another development was the creation of blogs. At first, they seemed a fashionable way of keeping a personal journal or diary. Then, they were used for educational purposes. Blogger – which is the most popular blogging service used today – was launched in August 1999. The service was later purchased by Google in February 2003.

Starting from 2000, ELT with the help of ICT prospered greatly in the new millennium; some titles of books are illustrated in Table 10.

Author	Year of Publication	Title of Book
Dudeney	2000	The Internet and the Language Classroom
Goodwyn	2000	English in the Digital Age. ICT & the Teaching of English
Chapelle	2003	English Language Learning and Technology: Lectures on Applied Linguistics in the Age of ICT
Smith & Baber	2005	Teaching English with Information Technology: How to Use the Internet and IT when Teaching – for the Professional English Language Teacher
Dudeney & Hockly	2007	How to Teach English with Technology
Lewis	2009	Bringing Technology into the Classroom
Richardson	2010	Blogs, Wikis, Podcasts, & Other Powerful Web Tools for Classrooms
Gilbert	2011	Why do I Need a Teacher when I've got Google?

Table 10: Some Recent Books on Educational Technology in ELT

Starting from 2005, people around the world celebrate the *World Telecommunication and Information Society Day* on 17 May. "The main objective of the day is to raise global awareness of societal changes brought about by the Internet and new technologies. It also aims to help reduce the digital divide." ("World Information Society Day", 2015)

II.3. World Declaration on Higher Education for the 21st Century

Back in 1998, on the eve of a new millennium, the UNESCO held a world conference in Paris about the challenges of higher education in the 21st century; the conference made a declaration entitled *World Declaration on Higher Education for the 21st Century: Vision & Action.* The declaration suggested strategies and stressed the importance of collaboration between all member countries to promote higher education in the world for its vital importance for sociocultural and economic development.

Under Article 12 'The Potential and the Challenge of Technology', the declaration (UNESCO, 1998) reads as follows:

> It is also important to note that the new technologies offer opportunities to innovate on course content and teaching methods and to widen access to higher learning. However, it should be borne in mind that new information technology does not reduce the need for teachers but changes their role in relation to the learning process Higher education should [be promoted] by:
>
> (a) engaging in networks, technology transfer, capacity-building, developing teaching materials and sharing experience of their application in teaching, training and research, making knowledge accessible to all;
>
> (b) creating new learning environments, ranging from distance education facilities to complete virtual higher education institutions and systems, capable of bridging distances and developing high-quality systems of education, thus serving social and economic advancement and democratization as well as other relevant priorities of society, while ensuring that these virtual education facilities, based on regional, continental or global networks, function in a way that respects cultural and social identities;

(c) noting that, in making full use of information and communication technology (ICT) for educational purposes, particular attention should be paid to removing the grave inequalities which exist among and also within the countries of the world with regard to access to new information and communication technologies and to the production of the corresponding resources;

(d) adapting ICT to national, regional and local needs and securing technical, educational, management and institutional systems to sustain it;

(e) facilitating, through international co-operation, the identification of the objectives and interests of all countries, particularly the developing countries, equitable access and the strengthening of infrastructures in this field and the dissemination of such technology throughout society;

(f) following the evolution of the *knowledge society* [emphasis added] in order to ensure high quality and equitable regulations for access to prevail ;

(g) taking the new possibilities created by the use of ICTs into account, while realizing that it is, above all, institutions of higher education that are using ICTs in order to modernize their work, and not ICTs transforming institutions of higher education from real to virtual institutions.

II.4. Computer Technology: The 20th Century vs the 21st

We live now in a world of technology; we can say that computers are now available to the vast majority of people. This is because of the continued developments in software and hardware that have made the third millennium different from the second in many ways. Table 11 compares computer technology of the second millennium to that of the third millennium:

20TH-CENTURY COMPUTER TECHNOLOGY	21ST-CENTURY COMPUTER TECHNOLOGY
▪ Frequent breakdowns in both hardware and software.	▪ Computers are widely available with so affordable prices and quite a reliable quality.
▪ User unfriendliness: Software use was rather complicated and needed a lot of expertise.	▪ User friendliness: Software is easy for inexpert people to use and technology is interactive.
▪ The Internet was less widespread and with low bandwidth.	▪ High-speed access to the Internet
▪ Software programs had very limited capacities.	▪ Sophisticated software with many features.

Table 11: Computer Technology: 20th vs. 21st Century

Likewise, the concept of classrooms is changing in the 21st century compared to that of the 20th century. According to the **21ST CENTURY SCHOOLS** website, the definitions of common terms related to *pillars* of learning are changing:

Schools could transfer from *buildings* to 'nerve centres' with transparent walls, connecting teachers, students and the community to the wealth of knowledge that exists in the world.

Curricula would be more connected to students' interests, experiences, talents and the real world (interdisciplinary). Teaching has to be flexible. For example, teachers do not have to teach vocabulary related to cold weather in a sunny day just to follow the syllabus or the coursebook.

Teachers: Their primary role as dispensers of information would change to learning facilitators, who help students turn information into knowledge, and knowledge into wisdom.

They must maintain students' interest by helping them realise how learning prepares them for life in the real world. Also, teachers must instil curiosity into their learners, a fundamental quality for lifelong learning.

Learners: In the past, learners were young persons who went to school, spent a specified amount of time in certain courses, received passing marks and graduated. Today learners have to be seen differently in already a globalized world. The differences may be summed up as follows:

20TH CENTURY CLASSROOMS	**21ST CENTURY CLASSROOMS**
▪ Passive learning	▪ Active Learning
▪ Time-based	▪ Outcome-based
▪ Textbook-driven	▪ Research-driven: Learners acquire knowledge as they conduct research.
▪ Teacher-centred	▪ Student-centred
▪ Learners used to work in isolation – classrooms were within four walls	▪ Learners interact each other around the world: the Global Classroom
▪ Lessons focused mainly on the lower levels of Bloom's Taxonomy – knowledge, comprehension, and application.	▪ Learning does not neglect the upper levels of Blooms' Taxonomy – analysis, synthesis, and evaluation.
▪ Writing was the primary medium of learning and assessment.	▪ Performances, projects and interactive media are used for learning and assessment
▪ Grades were averaged over the academic year.	▪ Grades are based on what was learned.
▪ Focus: memorization of discrete facts	▪ Focus: What students know, can do, and are like after forgetting the precise details.
▪ Literacy was about the three Rs: reading, writing, and arithmetic.	▪ Learners develop multiple literacies for the 21st century to live and work in a globalized, high-tech society.
▪ Low expectations	▪ High expectations: We expect that all students will succeed at higher levels of study.

Table 12: Classrooms: 20th vs. the 21st Century (adapted from <www.21stcenturyschools.com>)

II.5. Guidelines for Teaching and Learning with CALL

According to Egbert (2005, pp. 11–12), there are some guidelines to be taken into consideration when using CALL technology:

1. Teachers should use technology when they need to, not because it is there. Teachers can always manage without using any type of technology. After all, if computers do not support learning, they should not be used in the first place.

By way of illustration, in 2012, we attended a conference organised by the British Council in Batna and, interestingly, one of the presentations (entitled *Hands-Free Teaching*) was on how to teach without using any educational resources and yet making the lesson as interesting and as motivating for students as possible. The speaker (Paul Philips, the English project manager for British Council then) demonstrated the possibility of teaching grammar lessons by acting short stories or even by removing shoes and using them as teaching aids.

2. The focus must be kept on the language and content, not on technology itself. Technology is just a means to an end.

3. Teachers can learn about technology from their students who will enjoy and feel more engaged in the lesson.

Finally, Chapelle (2001, p. 93) suggested that CALL practicality depends on "hardware, software, and personnel resources . . . to be sufficient to allow CALL to succeed."

II.6. Computer-Assisted Language Testing (CALT)

Following the use of computers in learning, educators thought of assessing language using the same medium. Computer-Assisted Language Testing (CALT) thus emerged and was a logical outcome of language learning on computers. Still, computers cannot think or evaluate like human beings.

In their book entitled *Assessing Language through Computer Technology*, Chapelle and Douglas (2006, p. 23) contrasted the advantages and limitations of CALT. Table 13 summarizes some of the contrasts.

CHARACTERISTICS	CALT ADVANTAGES	CALT LIMITATIONS
Location, Time, Personnel	CAL Tests can be taken at many convenient locations, at convenient times, and largely without human intervention.	Security is an issue in high-stakes tests; equipment not standardized or universally available; IT expertise required for establishment, maintenance.
Rubric/Instructions	Test tasks are presented in a consistent manner for all test takers and instructions and input are presented auto-matically and uniformly, making for enhanced fairness.	Different levels of instructions, voluntary help screens, and different languages of instructions can detract from uniformity.
Input and Expected Response	Multimedia capabilities allow for a variety of input and response types, enhancing con-textualization and authenticity.	Input and response types are limited by available technology.
Interaction between Input and Response	Computers can adapt input in response to test takers' responses and actions, allowing for computer-adaptive tests and rapid feedback.	Interactiveness is more controlled; computer's ability to sample fairly may be limited; CA Tests are expensive to develop.
Assessment Characteristics	Natural Language Processing (NLP) technology allows for automated scoring of complex responses affecting the construct definition, scoring criteria and procedures.	NLP technology is new, expensive, and limited, thus creating potential problems for construct definition and validity.

Table 13: CALT Advantages and Limitations

Likewise, with the development of new technology, IELTS and TOEFL paper-based tests are being adapted for computer administration. Shaw and Weir (2007, p. 294) in their book *Examining Writing: Research and Practice in Assessing Second Language Writing* highlighted some of the advantages of Internet-based tests:

- Allowing for innovative test formats: integrating audio, dynamic task types and manipulating texts on screen;
- Allowing for greater control over aspects of administration such as timing;
- Enabling more efficient (and detailed) capture and scoring of candidate responses. It is possible, for example, to record the precise timing of candidate responses and to score them instantly;
- Providing the potential for greater test security. There is no need to ship papers to test centres.

As an illustration, Chapelle (2001, p. 111) reported on a project of administering a computer-assisted writing test to US college graduates. The test aimed at finding a relationship between familiarity with computer and achievement in writing tests:

> The test gives the examinees 50 minutes to write an essay on a single topic, which the authors describe as falling within the domain of 'personal experience' and 'general interest.' The essays were scored based on judgements of human raters on a holistic scale from 1 to 6. The raters had been trained to consider expression, organization, style, support of ideas, as well as grammar and mechanics. The score was reported as a single number referring to the level of performance.

The usefulness analysis of this particular computer-assisted writing test is summarized in Table 14.

QUALITY	POSITIVE ATTRIBUTES	NEGATIVE ATTRIBUTES
Reliability	▪ Raters were trained for holistic scoring, and two raters judge each essay.	▪ A single essay test relying on raters' judgements is fragile.
Construct Validity	▪ Examinees produce a complete text which should provide an opportunity to demonstrate textual competence. ▪ General and personal topics are intended not to bias individuals based on topical knowledge.	▪ Differential experience: Composing at the keyboard may affect performance.
Authenticity	▪ Composing at the keyboard may simulate processes used for academic writing by some students.	▪ Time-pressured keyboard: Composing on an unplanned topic is unlike much academic writing.
Interactiveness	▪ Essay-writing should prompt engagement of components of language knowledge, communication strategies and topical knowledge.	
Impact	▪ The format should prompt practice composing at the keyboard in academic programs.	
Practicality	▪ Test providers have obtained services to deliver tests successfully.	▪ Services are expensive for the testing program and for examinees.

Table 14: Summary of Usefulness Analysis for Computer-Assisted Writing Test

(Chapelle, 2001, p. 112)

We just note that assessing learners on computers does depend on their computer literacy and familiarity.

II.7. Advantages of Computer Technology for Student Writers

There are a number of advantages that cannot be passed over by teachers to enhance the writing skill of learners; these benefits could outweigh the conventional methods of writing instruction considerably (Boudjadar, 2015):

II.7.1. Word-processing Programs

Word-processing programs are very popular computer software that enables writing, editing, illustrating, and printing texts easily. These program offer valuable help for student writers and outperform the conventional method of writing (i.e. pencil and paper) in many ways.

Providing never-ending space, the software facilitates the composing stages with the possibility of deleting, inserting, substituting, and re-arranging chunks of texts without losing the neatness of the document. Another advantage is the feature of searching for words inside the document in the blink of an eye.

Word-processing programs also help students with checking their written products using either the integrated spellchecker or the grammar and style checker though they are not quite reliable all the time. Table 15 presents the issues that can be checked by Microsoft Word, one of the most popular word-processing programs worldwide.

Favouring the experience of word-processing, Pennington (2003, p. 292) argued that there are three kinds of effects on students' writings: manner effects (the easiness of the writing tasks using computers), quantity effects (the tendency to produce longer compositions), and quality effects (the good quality of the text).

GRAMMAR	STYLE
Capitalization	Clichés, Colloquialisms, and Jargon
Fragments and Run-ons	Fragments
Misused words	Gender-specific words
Negation	Hyphenated and compound words
Noun phrases	Misused words
Possessives and plurals	Numbers
Punctuation	Passive sentences
Questions	Possessives and plurals
Relative clauses	Punctuation
Subject-verb agreement	Relative clauses
Verb phrases	Sentence length (more than 60 words)
	Sentence structure
	Sentences beginning with And, But, and Hopefully
	Unclear phrasing
	Use of first person
	Verb phrases
	Wordiness
	Words in split infinitives (more than one)

Table 15: The Grammatical and Stylistic Issues that Can be Checked by Word

Using word-processing programs does not require extraordinary computer skills from the part of language learners; the software is easy to use. However, poor keyboarding skills could slow down the process of writing on computers and thus cause anxiety for learners.

II.7.2. Track Changes

Track Changes is a feature in Microsoft Word, the world's most famous word-processing program. Once turned on, the 'Track Changes' feature enables any reader to make revisions or give feedback by *recording* (i.e. keeping track of) all the changes made to the document (see Figure 6).

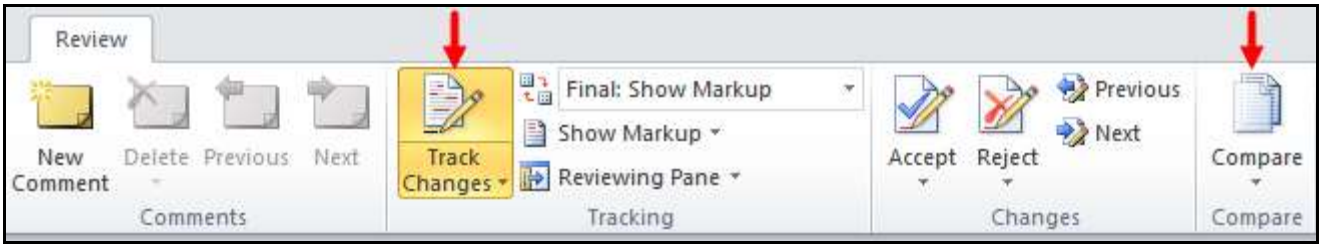


Figure 6: The Review Tab of Microsoft Word 2010[1]

Student writers can use this particular feature to review their peers' essays, along with teachers who can use it to provide feedback on students' written products (Dudeney & Hockly, 2007). The feature "enables [the teacher or any reviewer] to create an electronic dialogue with the writer, which emphasizes the writing process and not just the end product." (Lewis, 2009, p. 28).

Multiple reviewers can work on the same document; yet, the modifications brought by each one are shown distinctively. In this respect, Dudeney and Hockly (2007, p. 19) explained:

> [Track Changes] allow[s] documents to be shared among a group of users, with each user's changes and edits highlighted in a different colour and identified by their initials . . . any changes made by the second writer (format changes, word order, deletions, inserted comments, and so on) will be highlighted for the original author to see. The original author can then choose to accept or reject each suggested change.

Another option in 'Track Changes' is the possibility of comparing two versions of a document to reveal all the existing changes and modifications. By comparing a *revised* document with an original one, Microsoft Word is capable of tracking all the insertions, deletions, moves, etc. brought to the revised document (see Figures 6 & 7).

[1] The Track Changes feature has existed in early versions of Microsoft Word.

A useful application of this tool is when comparing between two versions of a student's essay. The teacher can know exactly what the learner has improved in his/her essay. This is, by the way, the same concept used in plagiarism catching software by comparing texts with each other.

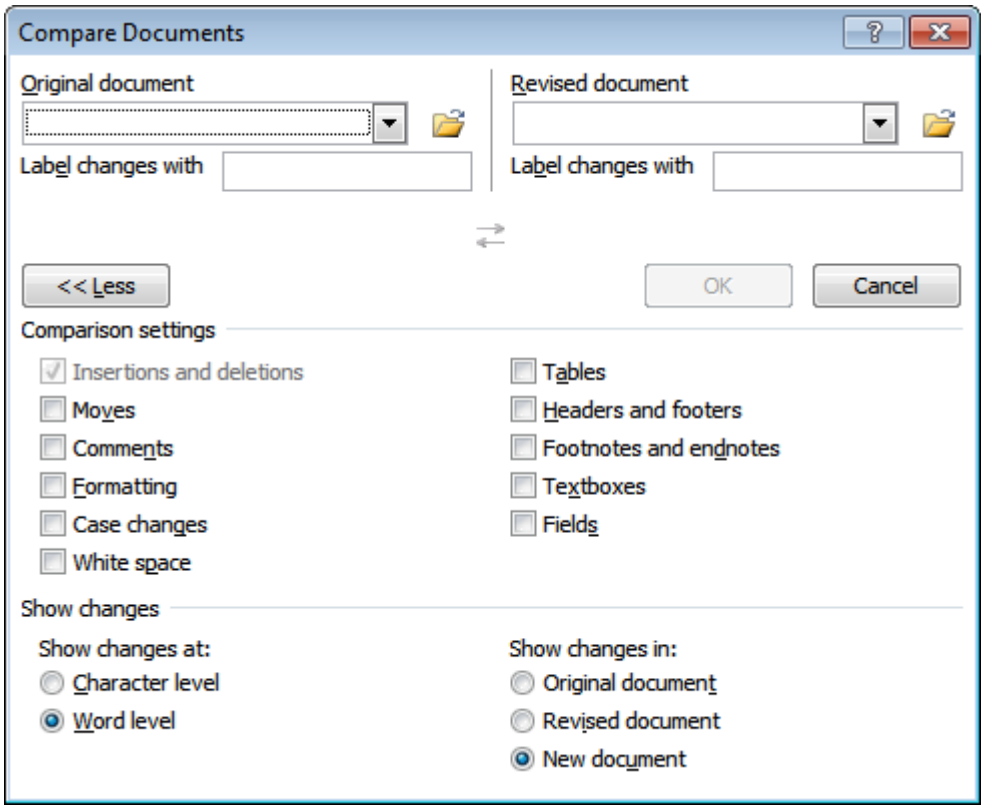


Figure 7: 'Compare Documents' Tool of the Review Tab in 'Track Changes'

Although 'Track Changes' is an "all-purpose tool" (ibid, p. 20), its user-friendliness and relative effectiveness could have an added value in writing classrooms for both teachers and learners. Indeed, many teachers are already using such feature especially with graduate students to review their theses.

II.7.3. Non-linearity of Writing

On computers, writing is non-linear in the sense that there are no clear-cut stages of writing that the writer must go through. Students can write as they think; then, it is easy to revise and edit what has been written. The usual "three stages of planning, writing, and revising breaks down in a computer context, in which planning as well as revision occurs as part of the writing process." (Pennington, 2003, p. 291). Moreover, recurrent revisions of the text do not affect the neatness of the text and its organisation. This is unlike the conventional method where editing is not so practical.

II.7.4. The World Wide Web

The Internet or the international network does provide endless opportunities for students to practice their writing skills. Writing emails, blogging (the practice of creating and keeping blogs), creating pages in Wikipedia (the free encyclopedia), and interacting via the social networking websites or online forums are all but amazing *virtual* spaces to practise the writing skill. What is advantageous to students is the interaction with worldwide audience; students are likely to receive feedback from many people who react to their writings.

Speaking of online forums, Wenski-Béthoux (2005, pp. 105-6) found the following:

> les apprenants se rencontrent sur des « forums virtuels » . . . qui leur permettent de publier des textes en langue cible par rapport à un sujet commun pour tous les participants. Chaque enseignant est libre de créer son forum sur lequel vont travailler ses apprenants . . . le travail avec les forums a de nombreux avantages : les apprenants travaillent dans une situation de communication qui est proche d'une communication authentique et leur rédaction écrite est valorisée par la publication des textes et leur lecture par l'ensemble des participants.

Many online spaces facilitate asynchronous communication; as for synchronous communication, students can interact, chat or write emails to their peers in any country of the world. Also, cost is not an issue as many of the provided online services are free of charge.

II.7.5. Visual Layout

By means of computers, it is possible to add images, videos, graphs, charts, drawings, and hyperlinks to the texts and this would make the meaning more comprehensible and the creative writing easier:

> "These changes in writing – the inclusion of the visual and the aural, the immediacy of online written communication, and the ability to link a word, sound, or image to other words, sounds, and images – have become widespread in the past decade as a result of the ever-increasing power of computers and the increasing availability of broadband Internet connections." (Herrington & Moran, 2009, p. 6).

II.7.6. Dictionaries on CD-ROMs and DVD-ROMs

Dictionaries play a very important role in assisting learners in both encoding and decoding tasks; a reliable dictionary offers valuable information to anyone willing to improve his/her linguistic skills.

Dictionaries are available through different mediums. In addition to paper-based dictionaries, there are electronic or CD-ROM dictionaries, online dictionaries, and even applications for smartphones and Tablets.

Dictionaries differ a lot in their properties; Atkins and Rundell (2008, pp. 24–25) categorized dictionaries depending on a number of features: language, coverage, size, medium, organization, users' languages, users' skills, and the reason behind using the dictionary (see Table 16).

We think that the advantages of using an electronic version of a dictionary are far beyond those of using a printed version. Searching and retrieving information is much easier and quicker (see Chapter 3).

FEATURES	CATEGORIES
LANGUAGE	▪ Monolingual ▪ Bilingual ▪ Multilingual
COVERAGE	▪ General language ▪ Encyclopedic and cultural material ▪ Terminology or sublanguages (e.g. a dictionary of legal terms, nursing, etc.) ▪ Specific area of language (e.g. a dictionary of collocations, phrasal verbs, or idioms)
SIZE	▪ Standard (or collegiate) edition ▪ Concise edition ▪ Pocket edition
MEDIUM	▪ Print ▪ Electronic (CD-ROM or DVD) ▪ Web-based ▪ Application for mobile devices (e.g. smartphones)
ORGANIZATION	▪ Word to meaning (the most common) ▪ Word to meaning to word
USERS' LANGUAGES	The dictionary could be meant for: ▪ Users who all speak the same language (native speakers) ▪ Specific groups of language-speakers ▪ Learners worldwide
USERS' SKILLS	▪ Linguists and other language professionals ▪ Literate adults ▪ School students ▪ Young children ▪ Language learners
PURPOSE	▪ Decoding (understanding the meaning of words; & translating) ▪ Encoding (using words correctly; translating; & language teaching)

Table 16: Types of Dictionaries

II.7.7. Easiness of Publishing

One of the top benefits of writing on computers compared to writing on papers is the easiness of publishing the written products because of the many solutions provided by the Web (Hyland, 2003, p. 160). This can be a motivating factor for student writers to encourage them to do and post their essays online. Reading and interaction, thus, will be much easier. In this respect Egbert (2005, p. 32) stated, "students should not only read and write every day, but they should also have opportunities to share their ideas and writings"; computers and the like provide this opportunity to EFL/ESL learners.

Blogs, for example, may encourage student writers to be productive by writing posts frequently so others can read and respond to them; collaboration is also possible through comments from friends and visitors to the blog. By way of illustration, Microsoft Word has an integrated feature that enables users to write then publish posts instantly (see Figure 8). This feature supports several blog service providers, including Windows SharePoint Services, WordPress <wordpress.com>, and Blogger <blogger.com>.

Similarly, wikis also provide ample opportunities for Internet users to write about different issues. A wiki page is defined as follows:

> a collection of collaboratively authored web pages. A wiki starts with one front page. Students can edit the page or add more pages to the wiki by creating links to new pages that don't yet exist. Old versions of each page can be viewed by checking the page history. (Cole & Foster, 2008, p. 157)

Using a blog or a wiki is like using a word processing program with all the basic features. Moreover, posting on blogs or wikis does not require special "technical expertise" by the user (Raimes & Jerskey, 2011, p. 312); this task is rather very user-friendly.

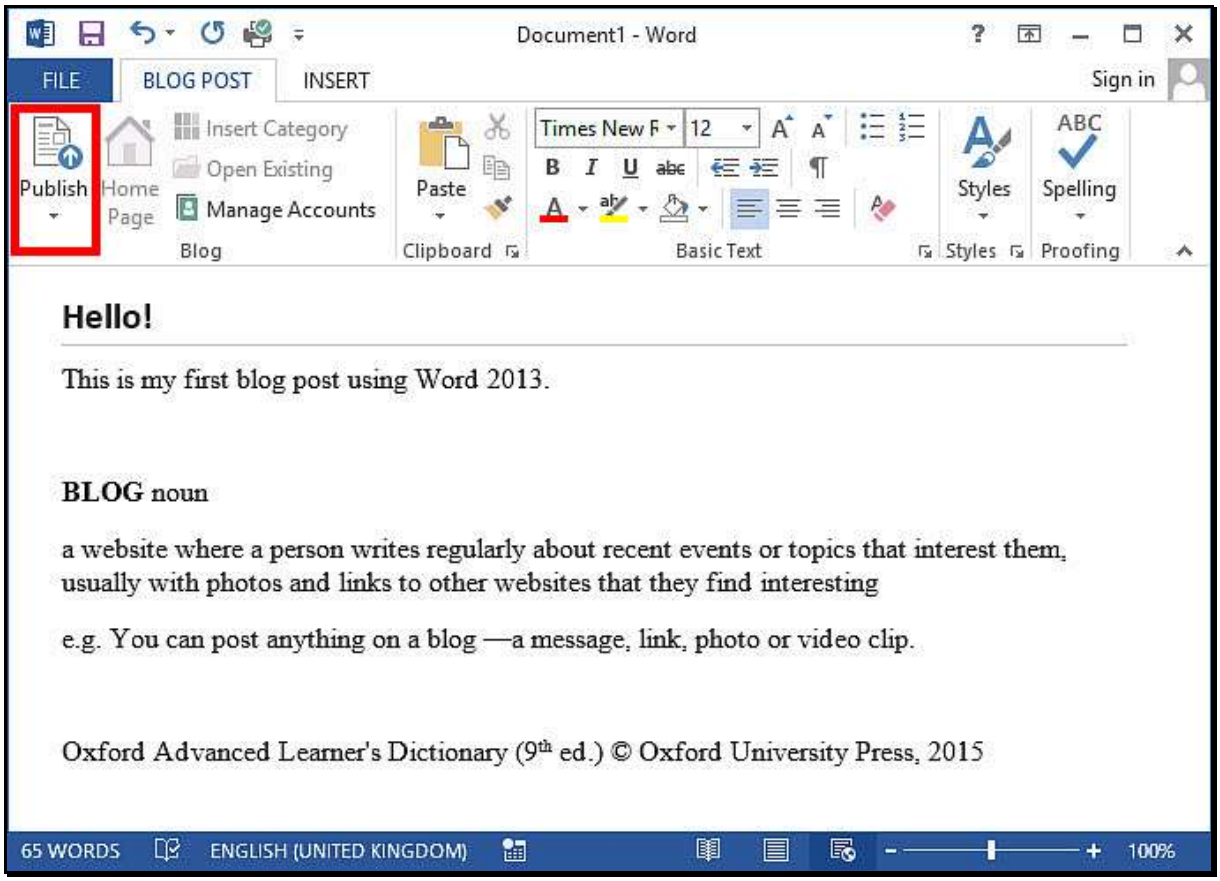


Figure 8: Blog Post Tab in Word 2013

Publishing online has another advantage by being an environmentally friendly practice: Student writers would reduce the waste of paper considerably.

II.7.8. Audience and Interaction

By posting online, more people from all over the world can read one's compositions. Interaction (whether synchronous or asynchronous) can follow to provide a kind of feedback that can be useful for student writers.

Speaking of blogs, Raimes and Jerskey (2011, p. 312) found that "[they] provide an opportunity to learn how others are thinking and to express [one's] own views for a special audience or for anyone who happens to read [one's] entries."

Furthermore, student writers who publish their essays online are to interact with international English users of different levels so that they might learn the language from each other. In this sense, Wenski-Béthoux (2005, p. 106) explained, "il est possible d'engager les apprenants dans un « travail en tandem » qui lie deux personnes de langue maternelle différente, apprenant chacun la langue de l'autre, dans une relation réciproque."

II.7.9. Real-Life Writing

"If there are few 'real-world' reasons for writing in our L1, there are even fewer for doing so in a foreign language." (McDonough, Shaw, & Masuhara, 2013, p. 183). This issue can be resolved by encouraging student writers to do writing online. On computers, they can write about topics related to their interests. Instead of essay topics that do not necessarily appeal to students or topics on which they have very little information, they could write about *real* topics in real contexts online; they will be interested in what they write because it is lively. Also, they can do creative writing to attract large audience to their blogs. In brief, student writers could write about their daily lives in English, which can largely motivate them.

II.7.10. Availability of Web Tools

There are a number of learning facilities available online to help improve students' written products such as online dictionaries, thesauri, corpora, encyclopaedias, Online Writing Labs (OWLs) and the like. Reading materials are also numerous ranging from newspapers and magazines to books of all kinds. Indeed, "Web sites . . . can provide a variety of easily accessible text types and articles written in numerous genres at a wide range of readability levels." (Egbert, 2005, p. 23). There are also websites that help student writers learn new vocabulary, translate or even proofread.

The idea of using virtual spaces to help practise writing in English is not new. What is different now is the sheer availability of these tools for more people even with limited facilities. Figure 9 recapitulates some computer potentials for L2 writers.

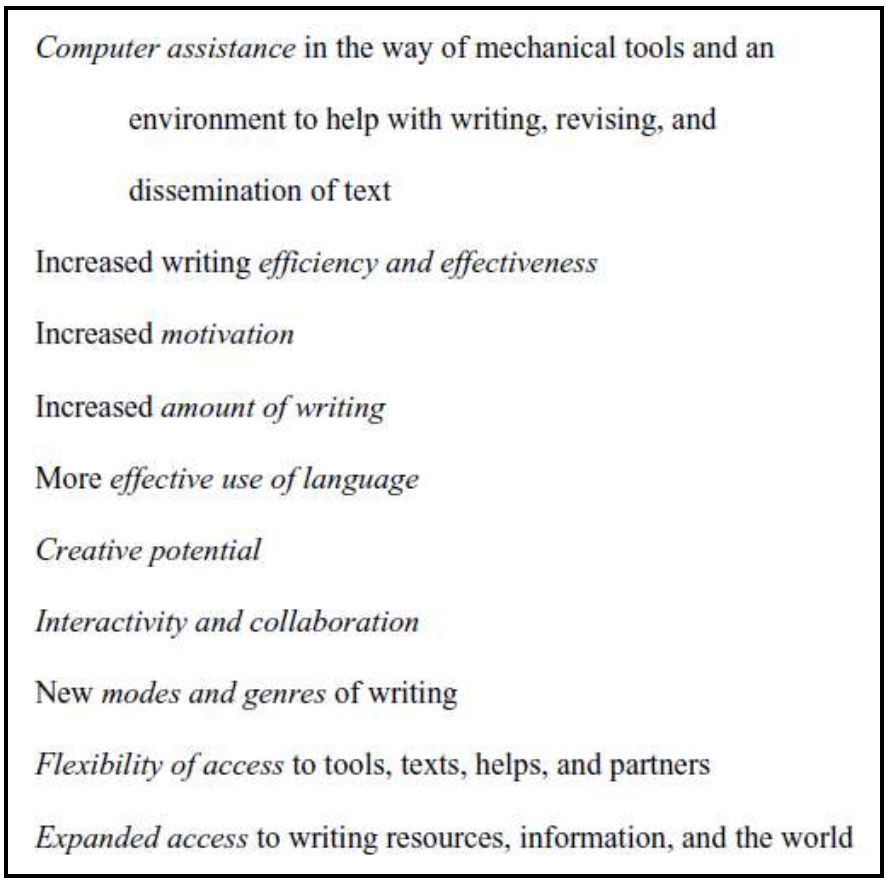


Figure 9: Computer Potentials for L2 Writers, adapted from Pennington (2003, p. 305)

We stress that integrating computers into writing classrooms is not out of the reach of developing countries. Computer technology is an assisting tool for the present and future generations who tend to be addicted to computers from a very young age. The dissemination of ICTs around the world will not leave any choice for teachers to integrate them into their classrooms.

II.8. Limitations of Computer Technology

In what follows, we summarise some of the limitations of computer technology:

- Computers do not interact like human beings; after all, they are just pre-programmed electronic machines. Human teachers, on the contrary, understand the psychology of learners and try to motivate, help, and encourage them in case of demotivation.
- Human beings are creative; while teachers provide unlimited alternatives and ways to instruct, computers do not offer anything beyond the pre-installed software.
- Using ICT is not a panacea for all pedagogical difficulties. Computer technology facilitates the learning process but, definitely, does not replace good teachers. The help and advice of teachers are and will be always acknowledged.
- Technology depends heavily on electricity; any power shortage would affect its use.
- Losing data is a common problem because of electricity shortage or software failure. Sometimes, this has catastrophic effect when losing huge data that were accumulated over a long period.
- Hardware could break down, and software could be infected and even damaged by computer viruses.
- Computers are also used for leisure activities that are very appealing to users. This could impede the progress of learning.
- There is inappropriate content online, which can distract the learners from learning.
- In word-processing programs, heavy reliance on spellcheckers could prevent from learning the correct spelling of words.
- Overworking on computers could cause fatigue and gradual deterioration of eyesight.

Finally, we understand that Computer-Assisted Language learning is not a method of English Language Teaching; it rather supports the existing methods (Warschauer, 2002; Hyland, 2003). It is the effective use of educational technology that makes the learning process more fruitful and more enjoyable.

Conclusion

The idea of using computers to enhance language learning was already well established in academia in the 1990's. Since then, computer software and hardware have improved considerably, along with computer literacy of EFL/ESL teachers and learners.

The benefit of using ICT in education would be significant if teachers are trained together with learners who must be trained as early as the primary school; we live in a digital era where there is no plausible excuse not to use ICT in education, after all.

In Chapter 3, we give an example of computer software that combines the benefits of both a dictionary and a word-processing program.

Chapter Three:
The Oxford iWriter

Chapter Three: Oxford iWriter

CHAPTER THREE

OXFORD iWRITER

> The dictionary is "the most successful and significant book about language." (Ilson, 1985, p. 1)

Introduction

Because dictionaries play an important role in language learning, EFL/ESL students should make the most of them in order to develop their language skills. One of the most trusted EFL dictionaries in the world is the Oxford Advanced Learner's Dictionary. In this chapter, we deal with the electronic version of the dictionary and those features that can help EFL/ESL students write in better English.

III.1. The Oxford Advanced Learner's Dictionary

The Oxford Advanced Learner's Dictionary (OALD) is an international best-seller; it is considered trustworthy and authoritative by EFL/ESL teachers and learners worldwide. The dictionary offers valuable assistance to EFL learners because it is built on a long history of lexicographical improvements.

The OALD was compiled by Albert Sidney Hornby (1898–1978), an English teacher and writer of books for foreign learners of English; it was first published in Britain by Oxford University Press in 1948.

Initially, Hornby compiled the *Idiomatic and Syntactic English Dictionary* (ISED), which was published in Japan in 1942. "By including the terms 'idiomatic' and 'syntactic' in the title of the first dictionary to be compiled for advanced learners, Hornby was underlining a commitment to the productive (or encoding) function." (Cowie, 2009, p. 398)

In 1948, the *Idiomatic and Syntactic English Dictionary* was reprinted and published by Oxford University Press for worldwide distribution as *A Learner's Dictionary of Current English*. Subsequently, in 1952, it was retitled *The Advanced Learner's Dictionary of Current English*.

After that, editions of the dictionary came out successively in 1963, 1974, 1989, 1995, 2000, 2005, 2010, and 2015. Each new edition of the dictionary comes out with more features and updates in comparison with the preceding one. The dictionary was so successful that it sold, since its appearance, over 35 million copies worldwide.

In 1977, Hornby received an honorary degree from the UNIVERSITY OF OXFORD in recognition of his significant contribution to English language teaching. (Kishimoto, 2006, p. 396)

In his forward to the 8th edition of the dictionary (p. vii), Swan claimed:

> [This edition] has all the features that he [Hornby] regarded as essential: accurate simple definitions, realistic examples, information on pronunciation, guidance on the grammatical and collocational patterns that words enter into, and notes on synonym distinctions and other aspects of usage. . . . The clarity of definitions is rigorously controlled with the help of a list of 3,000 keyword families. . . . There is even a 32-page 'writing Tutor', with language banks for different genres and further interactive guidance on the CD-ROM.

Indeed, the dictionary contains a wealth of information for the benefit of EFL/ESL students:

- 184,500 words, phrases, and meanings with headwords pronounced in British and North American English;
- 198,000 example sentences;

- 95,000 extra examples (from the corpus);
- 83,000 collocations;
- 57,000 synonyms and opposites;
- 5,000 study words from business, sciences, computing, literature, etc.;
- 2,600 words from British and American culture;
- 1,000 new words and meanings (compared to the 7th edition);
- 700 World English words (such as vuvuzela); and
- 800 illustrations.

III.2. The OALD Software

The print edition of the dictionary is accompanied with a CD-ROM (or DVD-ROM) containing a wealth of information to help students improve their English. Figure 10 shows the compact disc included with the dictionary.

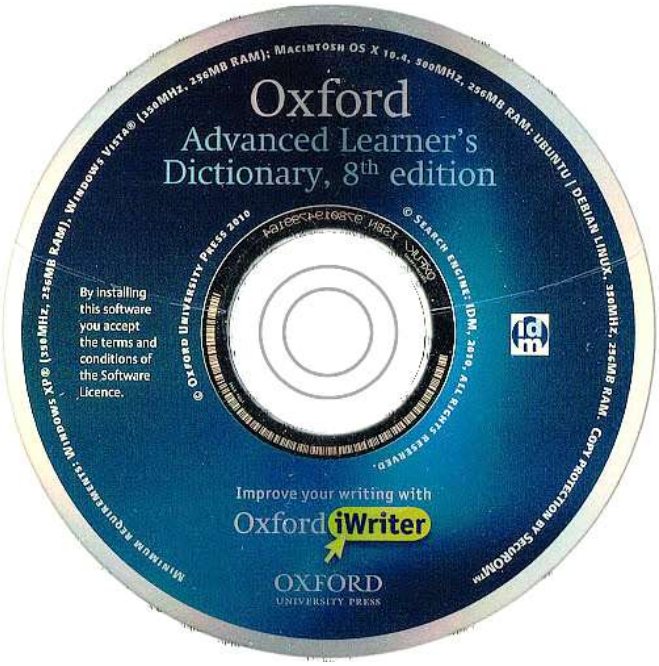


Figure 10: The OALD Compact Disc

A good dictionary should have a number of features; Béjoint (1981, p. 210) suggested the following types of information to be included in a good dictionary:

> For encoding, students need to know the spelling and syllabification of items, if they are writing, and their pronunciation, if they are speaking. For both modes, the dictionary must indicate the grammatical inflexions, the language variety, the usual collocations, the syntactic properties, the synonyms, etc. of the items treated.

The electronic edition of the OALD contains far more information than recommended by Béjoint. Moreover, the dictionary is fully searchable which gives it advantage over the print edition.

The main window of the dictionary (see Figure 11) consists of six blue tabs: Dictionary and Culture, iWriter, My Topics, Activities, Resources, and Genie.

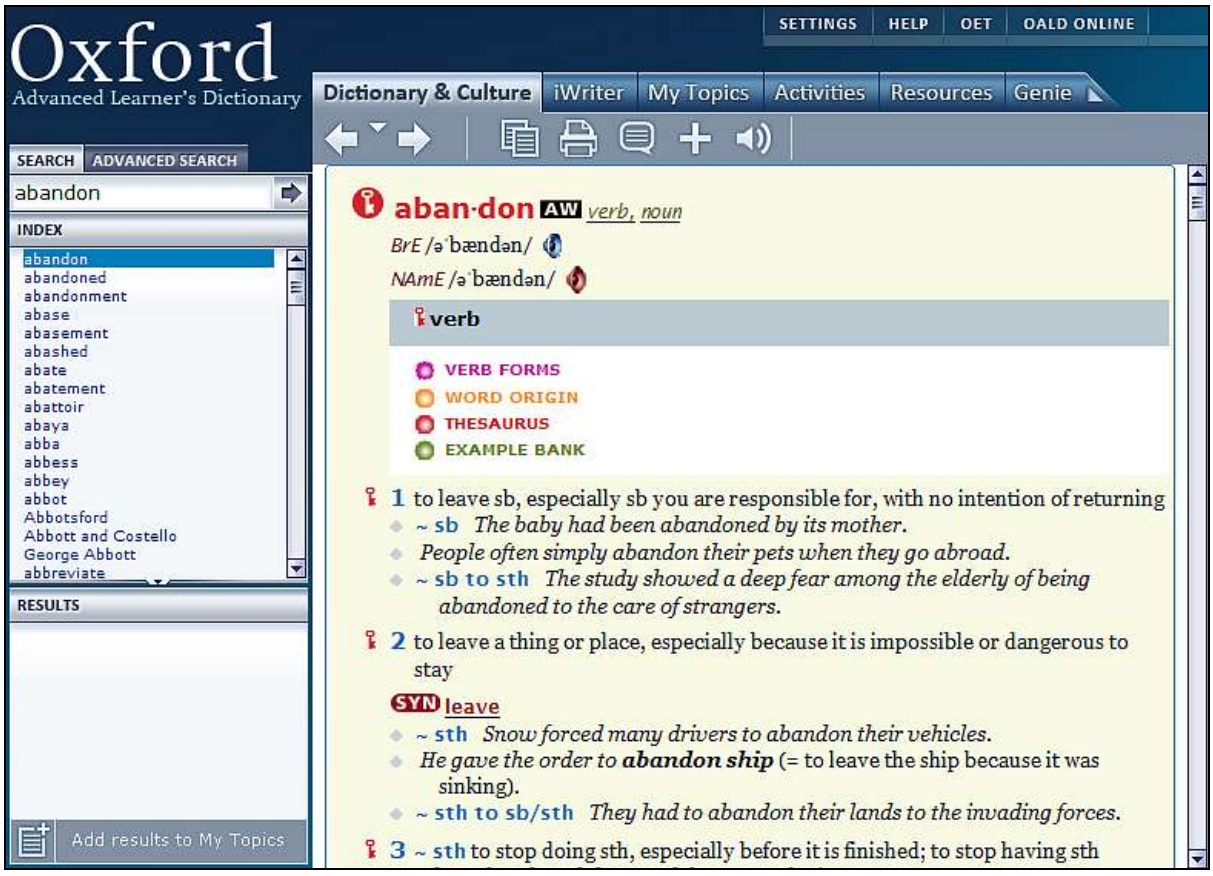


Figure 11: The Main Window of the CD-ROM Dictionary

III.2.1. Dictionary & Culture

Because language is closely related to its culture, the OALD provides some 2,000 entries from British and American culture that are worth to be known by EFL/ESL learners.

III.2.1.1. A to Z Entries

This section includes all the entries and illustrations contained in the print dictionary and selected entries from the *Oxford Guide to British and American Culture* (2005). Many proper names are included in the dictionary as headwords; examples of these words include: Elizabeth II, William Shakespeare, the Beatles, the Spice Girls, Big Ben, the Titanic, Loch Ness, Lockerbie, Watergate, Thriller, Manchester United, the Royal Family, and the American Revolution (see Figure 12).

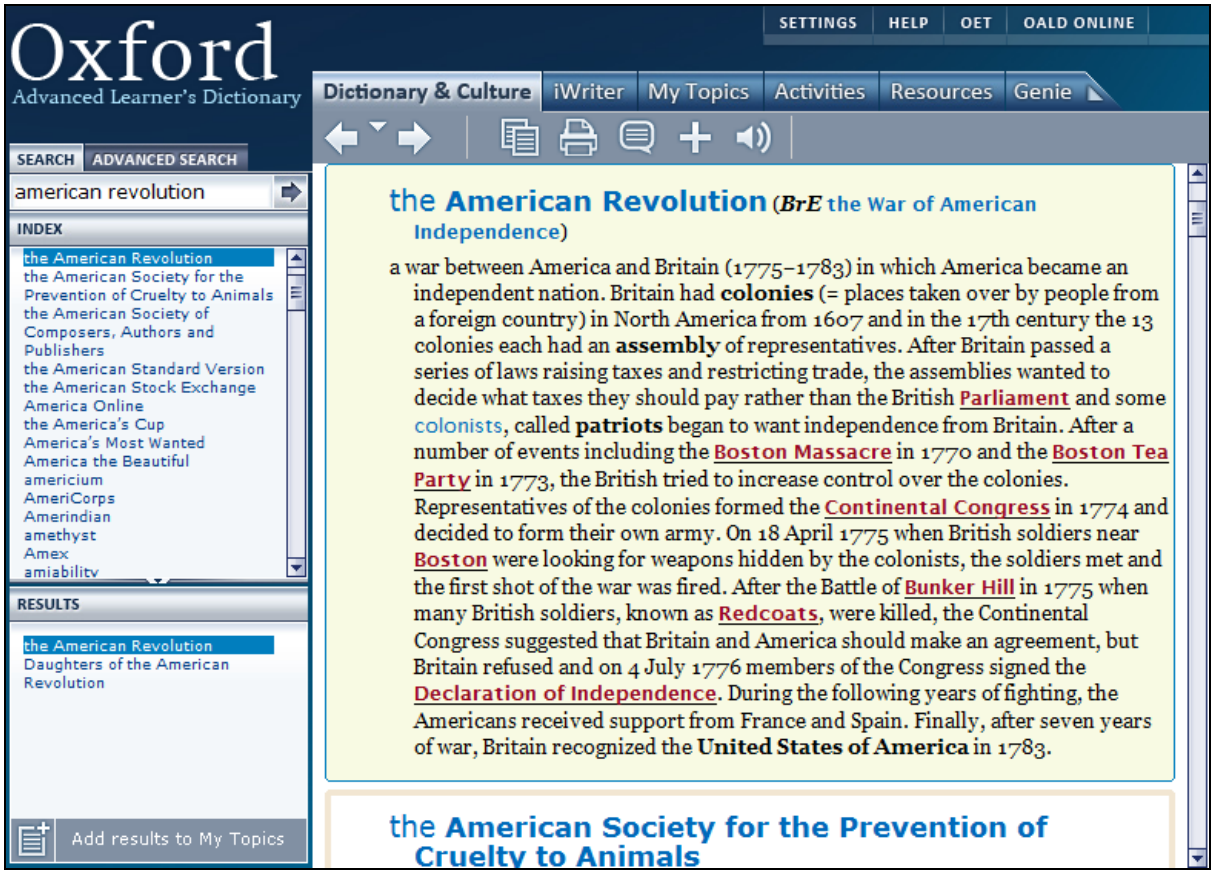


Figure 12: Example of a Cultural Entry

The layout of the lexicographical information is very relaxing to the human eye as each meaning and each example starts in a new line; this feature is not possible in print dictionaries because of the limited space on pages. The scroll wheel of the mouse is functional in scrolling the entries unlike some other CD-ROM dictionaries such as the *Macmillan English Dictionary* and the *Cambridge Advanced Learner's Dictionary*.

All entries are arranged alphabetically in the 'INDEX' menu. It is possible to look up words in the SEARCH box which is a non-alphabetical search; but if the looked-up word is misspelt or mistyped, a spellchecker suggests some alternatives. In this sense, Chon (2008, p. 49) found the following: "Due to use of electronic dictionaries, . . . [users do] not have problems with alphabetic search . . . which is a prerequisite for use of print-type dictionaries."

Moreover, the ADVANCED SEARCH tab offers additional options for more accurate results by choosing the search area (headwords; definitions; examples; phrasal verbs; idioms) or yet by filtering a part of speech (see Figure 13).

Figure 13: Advanced Search

Therefore, students can find a word they do not know by looking for words probably appearing, say, in its definition. For example, by specifying *heart* and *listen* as potential words existing in the definition of the looked-up word, the ADVANCED SEARCH finds 'stethoscope' as the only entry where 'heart' and 'listen' appear. The definition reads as follows: "an instrument that a doctor uses to listen to sb's heart and breathing."

For a more flexible and easier search, *wild cards* can be used. There are two types of wild cards: the question mark (?) representing the placeholder for one single letter or number, and the asterisk (*) representing the placeholder for any number of characters (or no character at all). A wild-card search can combine these two symbols to find words easily. For example, typing **S*Z?PHR*A** finds **SCHIZOPHRENIA**.

The advantage of using wild cards is to avoid spelling mistakes preventing users from finding a desired entry; dictionary users provide only letters that they are sure they exist in the word and in the correct order. For instance, students know that the word *foreign* begins with 'for' and contains the letter 'n' somewhere in the word; so once they type **for*n*** in the search box, they find the entry easily because using wild cards limits the obtained results considerably.

Quick searching in electronic dictionaries is an advantage over paper-based ones; by consulting an electronic version of a dictionary, the process of looking words up becomes quicker and easier compared to when using a printed dictionary.

Another very useful feature of the Oxford Advanced Learner's Dictionary on CD-ROM is the pop-up dictionary. If there is an unfamiliar word in the definition of a looked-up entry, double-clicking on it will show the entry for that word in a small pop-up dictionary window (see Figure 14).

Figure 14: Pop-up Dictionary

Another unique option in the Oxford Advanced Learner's Dictionary on CD-ROM is 'Word of the Day' that helps the user learn a new word each time s/he launches the application.

III.2.1.2. Extra Information

Not necessarily available in the print edition, the OALD on CD-ROM gives access to a wealth of extra information about the looked-up word. This extra information is displayed in a panel on the right of the main window of the dictionary and is divided into six types:

1. VERB FORMS,

2. WORD ORIGIN,

3. CULTURE,

4. THESAURUS,

5. USAGE NOTES, and

6. EXAMPLE BANK.

III.2.1.2.1. Verb Forms

This panel displays all the inflections of the looked-up verb: present simple, past simple, past participle, and present participle of the verb (see Figure 15). This information is consistently provided for all verbs whether regular or irregular.

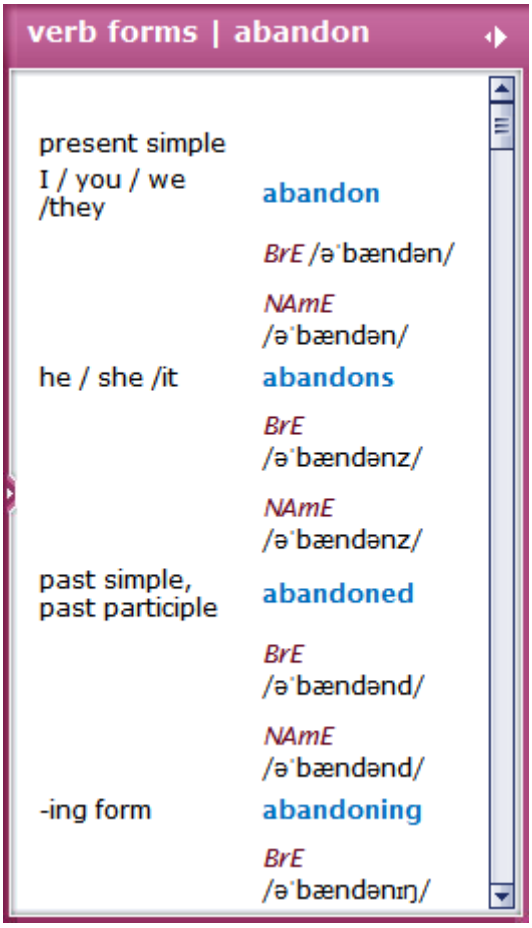


Figure 15: Verb Forms of the Headword 'Abandon'

III.2.1.2.2. Word Origin

It is a brief description of the etymology of the word. The information is not detailed but it can be sometimes helpful to learners (see Figure 16).

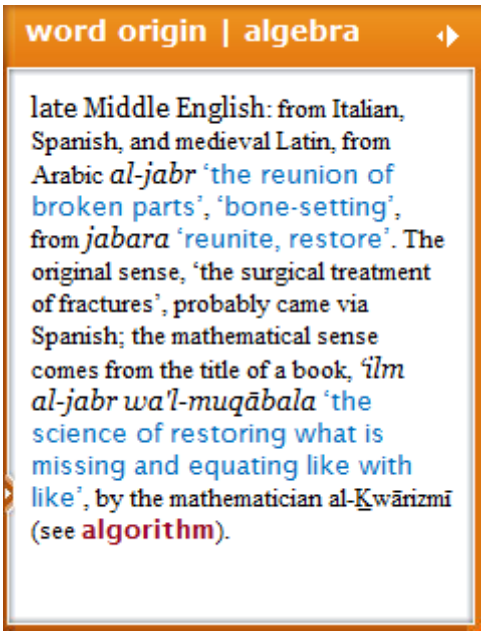


Figure 16: Word Origin of the Headword 'Algebra'

III.2.1.2.3. Culture

Because culture is significant in L2 learning, the OALD dictionary contains additional cultural information for a number of entries. Examples of headwords related to the Anglo-Saxon culture include: Buckingham Palace, the Industrial Revolution, the Conservative Party, Magna Carta, the House of Commons, and the House of Lords (see Figure 17).

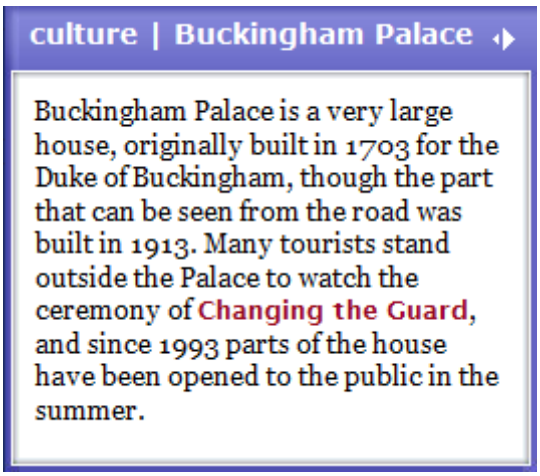


Figure 17: Culture Tab of the Headword 'Buckingham Palace'

III.2.1.2.4. Thesaurus

A highly appreciated feature of the dictionary is the integrated thesaurus (see Figure 18). The importance of thesauri for learners is overwhelming especially in encoding activities.

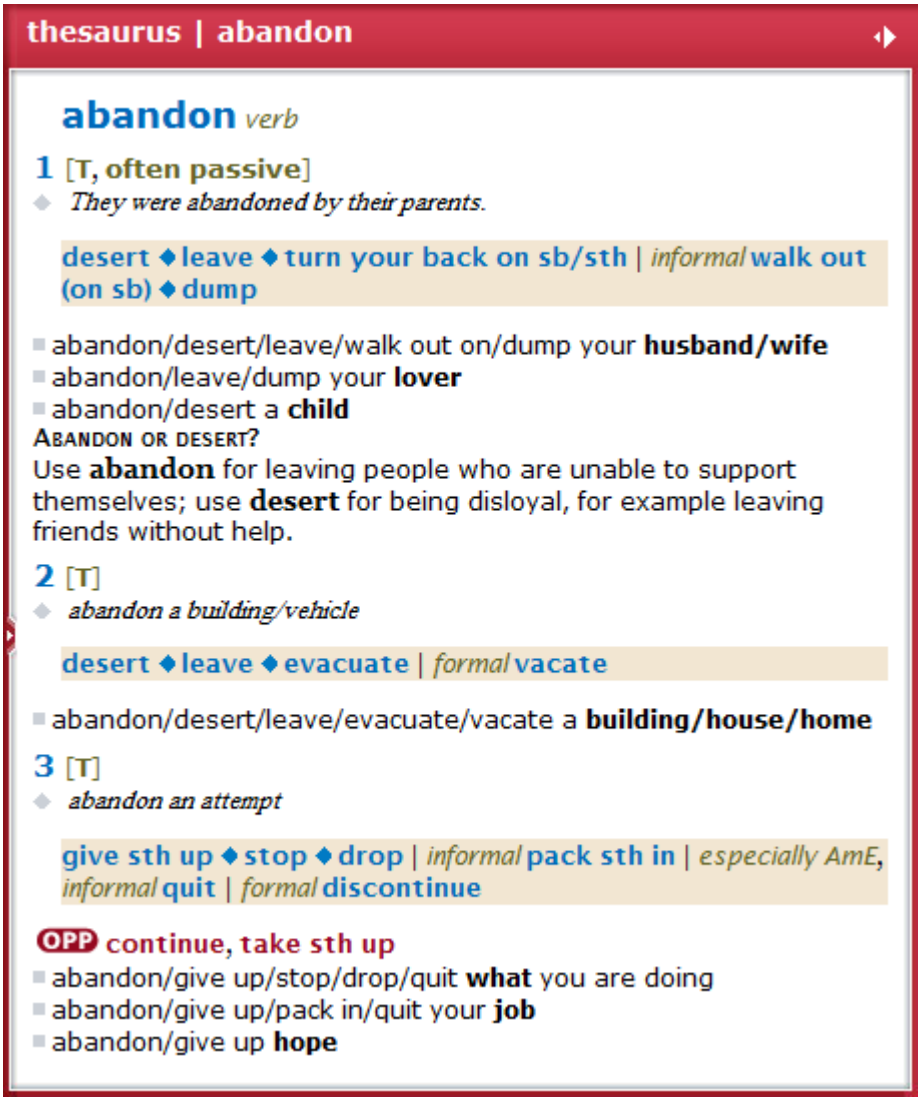


Figure 18: Thesaurus of the Headword 'Abandon'

III.2.1.2.5. Usage Notes

These are notes on different aspects of English usage. The dictionary provides eight types of usage notes: WHICH WORD, VOCABULARY BUILDING, GRAMMAR POINT, BRITISH/AMERICAN, MORE ABOUT, SYNONYMS, COLLOCATIONS, and LANGUAGE BANK.

Table 17 gives a brief description of each type.

WHICH WORD?	These notes show the differences between words that are often confused.
VOCABULARY BUILDING	These notes help choose more interesting and varied words to use and so increase vocabulary.
GRAMMAR POINT	These notes help make clear points of grammar that often cause problems.
BRITISH/AMERICAN	These notes explain differences between British and American usage.
MORE ABOUT	These notes give more information about an aspect of life or language in Britain and America and show the correct words to use.
SYNONYMS	These notes show the differences between groups of words with similar meanings.
COLLOCATIONS	These notes show useful words and phrases connected with particular topics, and a selection of verbs to use with those words and phrases.
LANGUAGE BANK	These notes show how to express similar ideas in a variety of ways, particularly in writing.

Table 17: Usage Notes[1]

III.2.1.2.6. Example Bank

The OALD is based on the British National Corpus and the Oxford English Corpus; the corpus is a computer database that contains a large collection of written and spoken texts. The Example Bank panel displays extra example sentences from the corpus, a feature that cannot be included in the print dictionary. Figure 19 shows extra examples of usage of the verb *abandon*.

[1] Retrieved from <oxfordlearnersdictionaries.com/about/usage_notes>

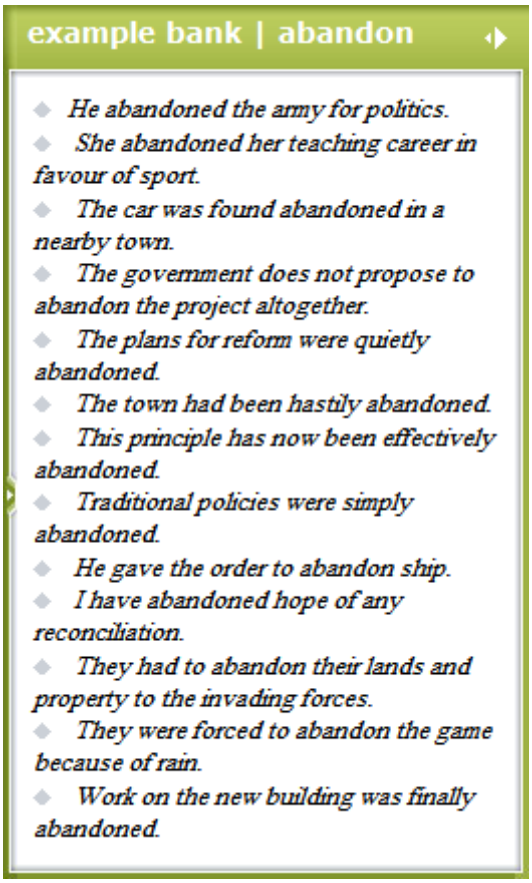


Figure 19: Example Bank of the Headword 'Abandon'

III.2.2. Oxford iWriter

The 8th edition of the OALD comes with an innovative feature called Oxford iWriter: the Oxford Writing Tutor. In the print edition, Oxford iWriter is a 32-page section of the dictionary; whereas in the electronic version of the dictionary, it is an *interactive* application which is supposed to help improve learners' writing skills.

Oxford iWriter assists users with the following types of writing: COMPARATIVE, ARGUMENTATIVE, ORAL PRESENTATIONS, REPORTING ON DATA, SHORT / LONG REPORTS, BOOK REVIEWS, LETTERS OF ENQUIRY / COMPLAINT, COVER LETTERS, and CVs / RÉSUMÉS. It provides ready-made frameworks to help learners structure their writing. Figure 20 shows the welcoming screen of the application.

Figure 20: The Oxford iWriter Main Interface

The Oxford iWriter helps with the process of writing itself by providing models and checklists. Moreover, it interacts directly with the other sections of the dictionary in that students can write their essays and check the dictionary simultaneously; they can also switch back and forth between the different tabs of the dictionary. We note that Oxford iWriter is very easy to use for both teachers and learners.

There are two modes in the application: the 'Model' mode and the 'Write' mode.

III.2.2.1. Model Mode

By clicking on 'I want to see models of writing', students can view models of 14 different types of writing. Figure 21 shows an argumentative essay model with explanation provided on its different parts: introduction, main paragraphs, and conclusion.

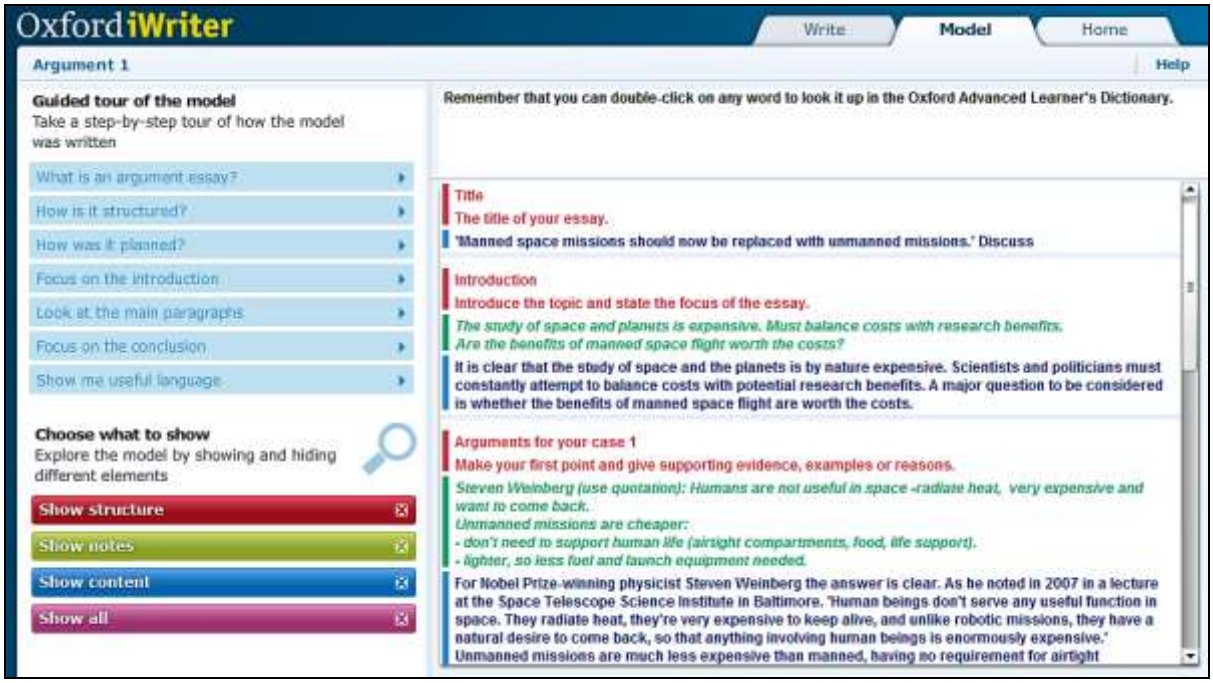


Figure 21: Model Mode of an Argument Essay in the Oxford iWriter

III.2.2.2. Write Mode

In this section, students can practise writing on different types of essays. By clicking on 'I want to do my own writing', students can choose the desired type from a menu. Figure 22 shows the space designed to practise the argumentative type of writing.

Figure 22: Write Mode of an Argument Essay in the Oxford iWriter

A framework (in **red**) is suggested to remind students of the structure for this particular type of essays. There are spaces for typing notes (in **green**) as well as spaces for typing in the text of the essay (in **blue**). There is no restriction on the length of the piece of writing. Students can choose to show or hide any element: STRUCTURE, NOTES, or CONTENT. Furthermore, students can take advantage of the other sections of the dictionary; at any time, they can double click on any word to look it up in the pop-up dictionary.

On the top left of the window, further help is given through four checklists: **Before you start**, **Choose your language**, **While you are writing**, and **Check** (see Figure 23).

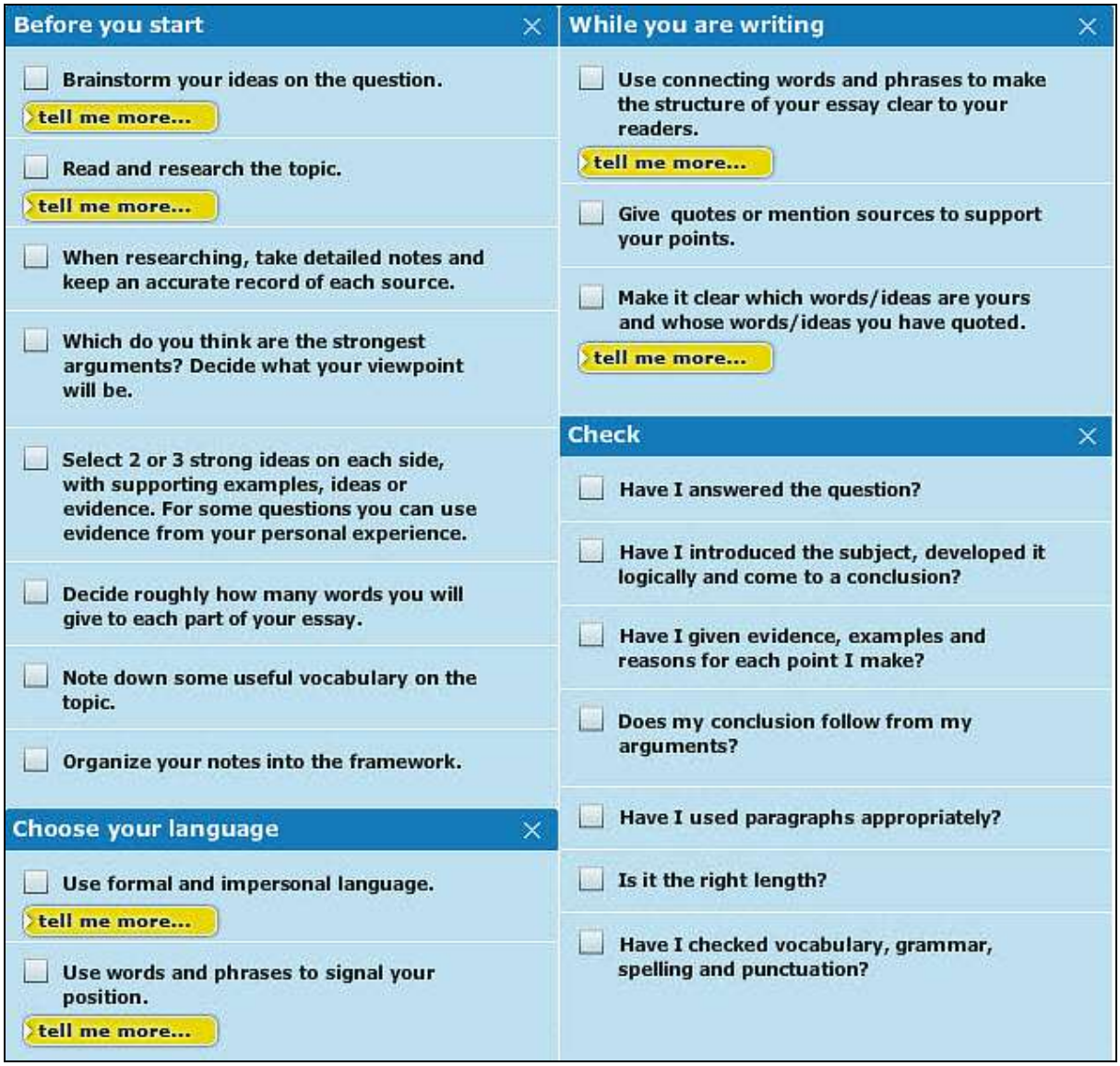


Figure 23: Checklists in the Oxford iWriter

Once they finish writing the whole essay or part of it, students can save their project or export it as a text document to a folder in the computer. Students then can insert the text of their essay in a Microsoft Word document, for example, to be formatted and spellchecked. They may, then, print out or email the document for feedback.

One of the advantages of Oxford iWriter is the possibility of saving the essay at different stages of composition to observe the progress over time. This could help in self-assessment, or yet in compiling a collection of texts or a *portfolio* which consists of "multiple writing samples, written over time, and purposefully selected from various genres to best represent a student's abilities, progress, and most successful texts in a particular context." (Hyland, 2003, p. 233)

Another feature is the possibility of highlighting words from the *Academic Word List* (AWL), which is a list of words that was compiled by Coxhead (2000) from a corpus of 3.5 million running words of written academic texts. The Academic Word List covers approximately 10% of all vocabulary in a well-written piece of academic writing.

When student writers are done with their essays, they can click on the 'Highlight Academic Word List' button on the toolbar (see Figure 22). This will highlight in red any words in the content of their writing that are part of the Academic Word List. Students should aim to have about 10% of the Academic Word List (AWL) in their own academic writing and they will be able to judge this when they see the words highlighted in red. The highlighting will also help them spot whether they are using the same words many times, in which case they should look in the dictionary itself to find alternative words or phrases.

The Oxford iWriter feature is more elaborate than similar features in other dictionaries on CD-ROM, viz. the 'Quick View' mode of the *Macmillan English Dictionary* (2007), the 'SUPERwrite' utility of the *Cambridge Advanced Learner's Dictionary* (2008), and the 'Longman Writing Assistant' utility of the *Longman Dictionary of Contemporary English* (2009).

III.2.3. My Topics

One of the major difficulties encountered by EFL/ESL students is vocabulary. The 'My Topics' section of the OALD software seems to provide a workable solution. It consists of lists of words arranged in topic vocabulary banks (see Figure 24) to help dictionary users find and learn the vocabulary for the topics which they need to write about. 'My Topics' cover 15 subject areas, and each topic in turn splits up into sub-topics and so on. The main topics are as follows:

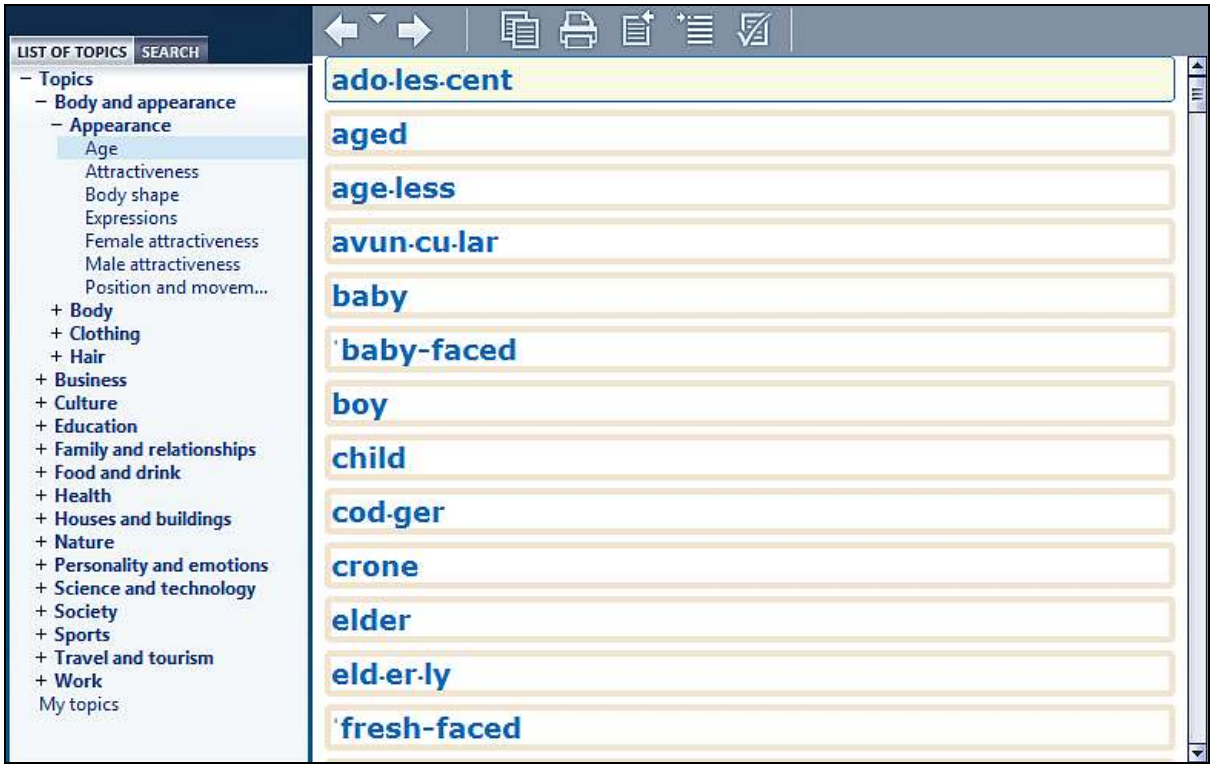


Figure 24: My Topics Tab

→ Body and appearance;
→ Business;
→ Culture;
→ Education;
→ Family and relationships;
→ Food and drink;
→ Health;
→ Houses and buildings;
→ Nature;
→ Personality and emotions;
→ Science and technology;
→ Society;
→ Sports;
→ Travel and tourism;
→ Work.

Students can choose either to browse the list of topics or look up a given word in the SEARCH box. It should be noted that headwords in this section of the dictionary are part of the OALD entries.

The 'My Topics' section of the OALD software is supposed to help students in finding and in choosing the right word according to the subject matter of their written assignments. Moreover, they can create their own vocabulary lists by adding headwords from the dictionary and by clicking on the icon 'Add to My Topics' in the Dictionary & Culture tab.

III.2.4. Activities

The Activities section consists of a number of interactive exercises: ACADEMIC WORD LIST EXERCISES, TOPIC VOCABULARY EXERCISES, and DICTATION (see Figure 25).

Academic Word List exercises help students learn and practise the words from the Academic Word List. The exercises are grouped into 10 sub-lists and for each sub-list learners can practise four areas of language: word meanings, word families, word combinations, and synonyms and opposites.

Figure 25: The Activities Tab

Topic vocabulary exercises help students learn and practise the vocabulary that is covered in the ready-made topic dictionaries (My Topics). There are two different types of exercises: word meanings and missing words.

Also, there are two different types of dictation exercises: listen and type, and jumbled sentences. Dictation exercises help learners practise their listening skills; they can listen to sentences in any of the five different accents: British, American, Canadian, Australian or South African.

III.2.5. Resources

This section of the OALD software consists of worksheets in PDF (Portable Document Format) to help users improve their dictionary skills or to help with vocabulary, writing or speaking. These worksheets are about idioms, phrasal verbs, geographical names, register, synonyms and opposites, spelling, punctuation, etc. There are also word lists that could be printed out (the Oxford 3000 and the Academic Word List) as well as maps of English-speaking countries (see Figure 26).

Figure 26: Resources Tab in the Oxford iWriter

III.2.6. Genie

The Genie is a pop-up dictionary that helps in on-screen reading or writing. It interacts directly with a number of computer programs such as Internet browsers (Internet Explorer, Mozilla Firefox, etc.), Adobe Reader, and Microsoft Word.

Figure 27: OALD Genie

Once activated, there is no need to type in the SEARCH box to look up a word. Instead, putting the cursor on a given word (in Word Documents) or highlighting it then holding down the CTRL key (in Adobe Acrobat Documents) will show immediately the corresponding entry in a small window. In the event that results do not appear, this means either the spelling is wrong or the entry does not exist at all in the dictionary.

III.3. The Oxford 3000[1]

In order to make the definitions easy to understand by EFL learners, the defining vocabulary used in the Oxford Advanced Learner's Dictionary is based on the Oxford 3000 list with occasional exceptions.

The Oxford 3000 list contains 3000 of the most basic and familiar English words that are essential for the majority of EFL learners (nouns, verbs, adjectives, adverbs, pronouns, prepositions, conjunctions, and determiners). The list also includes basic phrases; however, proper names and numbers are not included in the main list.

These words have been carefully selected by experts in the fields of teaching and language study because of their importance and usefulness (see Appendix A). The selection was based on three criteria: frequency, usage range, and familiarity.

Frequency: Based on the information in the British National Corpus and the Oxford Corpus, words that occurred most frequently in English were included.

Usage Range: By this criterion, only words that are frequent across a range of different types of texts are selected.

[1] cf. <www.oxfordlearnersdictionaries.com/about/oxford3000>

Familiarity: The Oxford 3000 list also includes some very important words which are not used very frequently, even though they are very familiar to most users of English. These include, for example, words for parts of the body, words used in travel, and words which are useful for explaining what we mean when we do not know the exact word for something.

The words of the Oxford 3000 are distinguished in the main section of the dictionary with a *key* symbol  next to the entries; these keywords often have extra information in the form of more examples of use, special notes explaining synonyms or related words, or helpful illustrations.

The **OXFORD 3000 TEXT CHECKER** is a service available online via the link <www.oxfordlearnersdictionaries.com/oxford_3000_profiler.html> where the vocabulary of texts can be checked against the Oxford 3000 list; then the words which are not part of the wordlist will be highlighted in red. Consequently, the complexity of texts can be determined as follows (cf. Section I.5):

- In a typical LOW INTERMEDIATE text, close to 100% of the words will be Oxford 3000 keywords.
- In a typical HIGH INTERMEDIATE text, the percentage of words will be 90–95%. An approximate number was reported by Nation (as cited in Arnaud & Savignon, 1996, p. 157): "A passive vocabulary comprising the 2,000 most frequent words will cover 87% of the tokens in an average text."
- In a typical ADVANCED text, 75–90% of the words will be Oxford 3000 keywords.

III.4. OALD Online

The content of the dictionary in its entirety is freely accessible online via its website <www.oxfordlearnersdictionaries.com>. Users can look up words and listen to their pronunciations. Figure 28 shows a screenshot of the headword 'cooking' taken from the OALD website.

Figure 28: The Headword 'Cooking' from the OALD Website

III.5. OALD App

Due to digital revolution, there is a tendency to integrate dictionares in mobile devices so users would learn the language on the go. "This digital revolution will take us from one universe to another, from paper dictionaries to digital dictionaries." (L'Homme & Cormier, 2014, p. 331)

The OALD is available as an application for smartphones and tablets (see Figure 29). It has been developed by Paragon Software, a leading software developer for mobile devices. Students can experience the application on iPhone and iPad from Apple™, on Windows Phone from Microsoft™, and on Android phones or tablets from Google™, where they can enjoy most of the features included in the CD-ROM.

Figure 29: The Headword 'Cooking' from the OALD App

For the purposes of comparison, this is the same entry from the OALD CD-ROM:

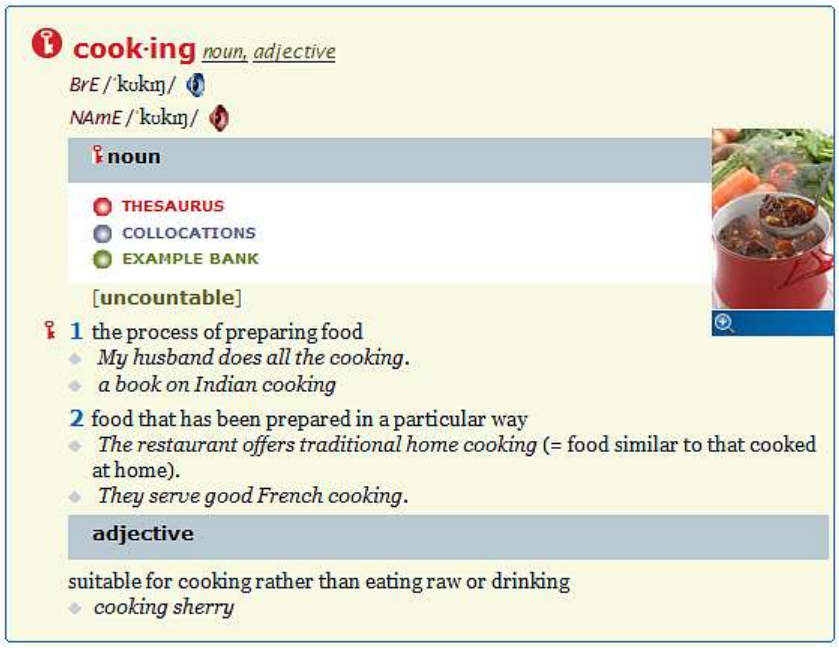


Figure 30: The Headword 'Cooking' form the OALD CD-ROM

It should be noted that the app is not free of charge; it must be downloaded from Google Play, App Store, or Windows Store for 20 € or so.

III.6. The OALD: Print vs Digital Editions

In the following table, we compare between the different versions of the OALD:

Printed Dictionary	Electronic Versions of the Dictionary
▪ Weight of the dictionary is considerable. Users have to carry the dictionary everywhere.	▪ The dictionary is to be installed. "Dictionary users are relieved of the burden of having to carry [it] around" (Lew & De Schryver, 2014, p. 349)
▪ Text size: fixed and small.	▪ Text size: easily adaptable
▪ Search: alphabetical, slow, and very limited. Knowing the correct spelling is a prerequisite.	▪ Search: not alphabetical and quick. Usually there is no need to know the spelling or to type the word in full.
▪ The content is only searchable by scanning through the pages.	▪ The content (even maps) is searchable in its entirety (idioms, phrasal verbs, examples, etc.)
	▪ The text of the dictionary is hyperlinked so to look up any word instantly (pop-up dictionary).
▪ Limitedness of space. The information is condensed to save space.	▪ Relaxing visual layout: Each meaning and each example starts in a new line.
▪ Each headword is phonetically transcribed.	▪ Each headword is pronounced based on recordings by native speakers. Examples are also pronounced in the app.
▪ Illustrations cannot be zoomed out.	▪ Illustrations can be zoomed out.
	▪ Possibility of adding annotations (notes) to definitions.
	▪ Possibility of creating personalised topic lists of the most relevant vocabulary to the user.
	▪ The software allows users to copy and paste text, and to print selected headwords.

Table 18: The OALD: Print vs Digital Editions

The advantages of using digital dictionaries over print dictionaries are overwhelming. Lew & de Schryver (2014, p. 345) found the following:

> In print publications, any changes to lexicographic content or its presentation had to wait at least until the next edition was typeset and printed. Further, owners of paper copies would not usually be expected to purchase an updated edition every few years, so even if improvements had been made, users would still be stuck with the earlier version which they already had on their bookshelf. Likewise, dictionaries on optical media (CD-ROM, DVD-ROM, etc.) . . . are not that easily upgraded. Not so with modern digital publication. Online dictionaries as well as dictionary apps can be updated as often as needed, and all users can instantly benefit from the improved content or features right from the moment these become available.

III.7. Limitations of the Software

Based on our assessment, we realised that the Oxford Advanced Learner's Dictionary software has a number of limitations that can be summarised in the following points:

Searching in the text of the dictionary is an advantage of electronic dictionaries, a feature which is not possible in paper-based dictionaries. However, ADVANCED SEARCH is relatively limited in its efficiency.

- By way of illustration, looking up the phrase *to jump for joy* returns no results at all although it exists as an example within the headword *joy*.
- Another example is the word *foci* (plural form of *focus*). Looking up the word in the dictionary does not show the corresponding headword directly. Instead, the spellcheck appears suggesting some spelling alternatives like *foie* and *fox*.

- Also, looking up a phrasal verb, say *go for*, will not guide the user directly to the headword. Instead, it leads him/her to the main entry (in our example *go*); then, the user has to flick through a very long entry.

- We note that the search engine contained in the dictionary app designed for mobile devices is much better.

- The dictionary does not contain a sound search engine to help find words that are pronounced in the same way. For example, the word *enough* is better looked up through a sound search. This option does exist in some CD-ROM dictionaries such as *Macmillan English Dictionary* and *Cambridge Pronouncing Dictionary*.

- The dictionary does not include proverbs which are likely to be beneficial for EFL/ESL students.

- Sometimes, sections of the dictionary overlap each other (collocations, thesaurus, and synonyms).

- A spellchecker is missing in Oxford iWriter. We understand that the application is not a word processor. Alternatively, it is possible to double click on any word to look it up in the dictionary. Yet, doing this recurrently may be boring and tiring for student writers.

- More types of writing should have been included in Oxford iWriter.

- Forgetting to save a project will delete it immediately from Oxford iWriter.

Conclusion

The Oxford Advanced Learner's Dictionary software has a number of interesting features for the benefit of EFL learners such as the interactive writer (Oxford iWriter) and the integrated thesaurus. We assume that the experience of using the electronic version of the dictionary is far beneficial than the conventional paper-based edition.

In Chapter 4, we examine the advantages of the OALD software in a practical situation, i.e. when student writers use it to compose their essays.

Chapter Four: Empirical Study

Chapter Four: Empirical Study

CHAPTER FOUR

EMPIRICAL STUDY

Introduction

This chapter explores the practical issues of using computer technology in writing classrooms. It reports on the results of an experiment carried out with two groups of third-year students at the University of Constantine. Through the experiment, we aimed at testing the Oxford iWriter application with a sample of students to find out to what extent it could help them overcome some recurrent problems during the composing processes and, thus, improve their written products. At first, we describe the sample, the research tools and the procedure implemented to prove the hypothesis. Then, we compare the data collected from both control and experimental groups.

IV.1. Method

The method adopted for this research work consists of comparing essays written by students from two different groups: a control group and a treatment group.

IV.1.1. Subjects

The subjects were undergraduate students who were taught by the researcher during two consecutive academic years. The number totalled 108 students divided as follows: 50 students from the control group (males = 9) and 58 students from the experimental one (males = 14). Students from both groups were in their third (and final) year of instruction preparing for a BA in English in the department of Foreign Languages at the University of Constantine. The researcher taught the same syllabus in both academic years; it mainly covered the comparison and argumentative types of essays.

We thought that the subjects at that particular level of education were eligible to take part in the experiment. After they had studied English for two years at the university, they were supposed to have a good command of the language. Also, we assumed that the subjects had basic computer literacy because they had already studied computing as a module during their first and second years at the university.

IV.1.1.1. Control Group

In a conventional classroom, students from this group were asked to write argumentative essays – following the curriculum taught at the department – over the course of a whole semester. Their essays were then collected and assessed for future comparison. The subjects from this group did not use any kind of technology. As for dictionaries, many students had pocket-sized paper dictionaries.

IV.1.1.2. Experimental Group

Students of this group had one of their regular sessions of written expression in an equipped language laboratory. For practical purposes, they were divided into subgroups. The OALD on CD-ROM was installed on each computer in the aforementioned laboratory. At first, the researcher showed the participants how to use the application successfully. Then, in the course of a whole semester, they were asked to compose argumentative essays by typing them directly into the Oxford iWriter application and write on the same topics proposed for their counterparts in the control group. They were also encouraged to take advantage of the other features provided by the software. They were given sufficient time to finish their essays which were then saved and retrieved.

We just note that there were always absentees in our sessions as it is a common practice among university students.

IV.1.2. Research Tools

The following research tools were used:

IV.1.2.1. Language Laboratory

Compared to a conventional classroom, this language laboratory (Taiwanese technology) provides a convenient setting for both teachers and students of foreign languages (see Figure 31). It is equipped with 24 interconnected desktop computers running Windows XP operating system. There is also the teacher's workstation which enables him/her to broadcast its screen in real time on all (or some) students' screens via a system called DBS (Digital Broadcast System).

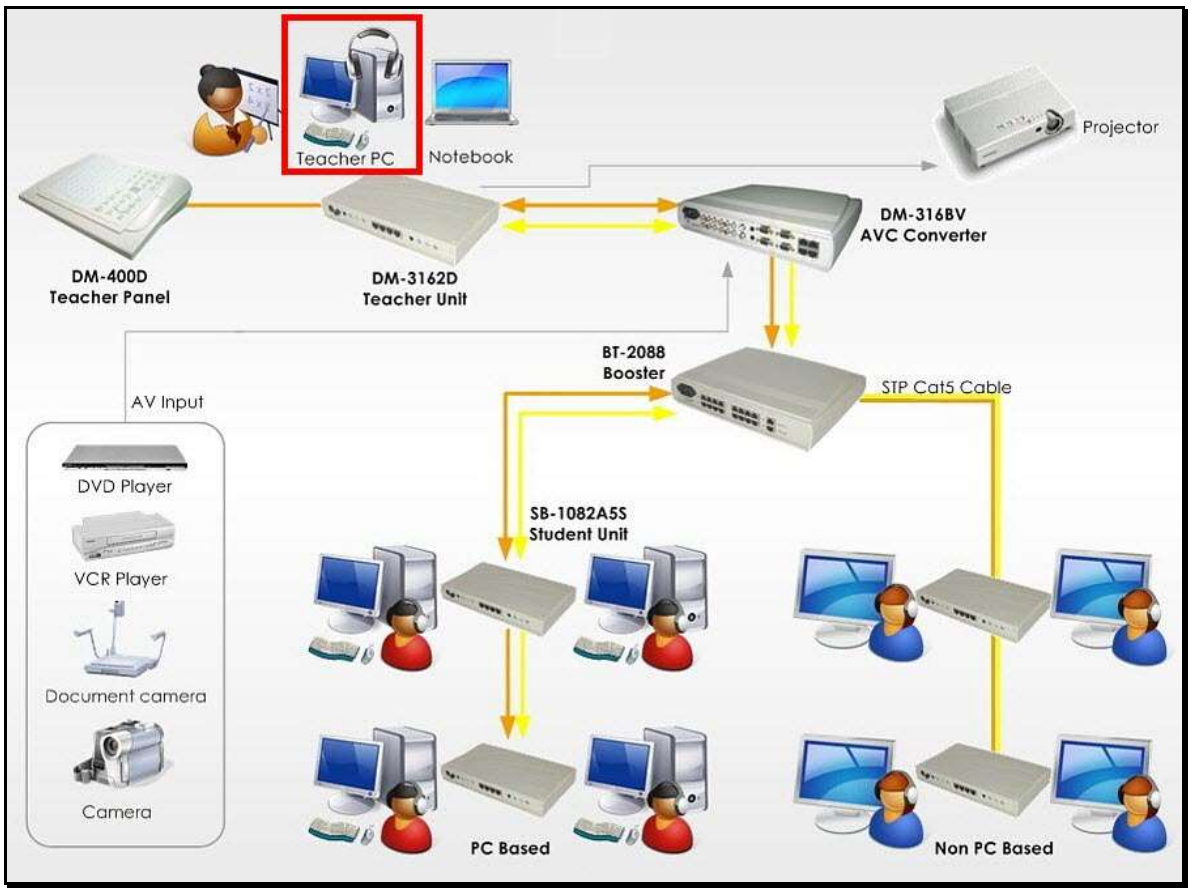


Figure 31: Structure of the Language Lab

The hardware in this laboratory was relatively new back then, with the computers having only basic pre-installed software (including Microsoft Office).

Each student had his/her own computer unit that had to remain unchanged for the whole semester. It is there where all his/her work was saved under his/her personal name and dates of last modifications (see Figure 32). Also, the students were ordered not to use any USB drives to prevent any potential virus infection as well as to prevent them from copying ready-made texts brought from outside the lab.

Figure 32: Projects Saved by Students on Oxford iWriter Application

To help the subjects become familiar with the application, two training sessions were provided by the researcher using DBS. Students were introduced to the main features of the application and were advised on how to take full advantage of the dictionary and other sections of the CD-ROM.

The role of the researcher in the language laboratory was that of any teacher of written expression; it was to assist students with composing processes as well as computing skills. The software was user-friendly and required only some familiarity with computer basics.

Regarding their computer literacy, students were expected to have basic command of computers because they had already been taught computing as a separate module during two consecutive years at the university. Similarly, students were taught how to use dictionaries as part of the study skills course during their first year at the university.

IV.1.2.2. Peer Feedback

After finishing typing their essays, students were asked to review their peers' essays – saved to Microsoft Word documents – using the *Track Changes* feature of Microsoft Word. To use this feature, students had just to change seats in the language lab. Furthermore, they did not need to pre-acquire any skills; once the feature was activated by the teacher, they had just to modify the text of the essay. To help them with this task, students were given a peer-editing worksheet adapted from Oshima and Hogue (2006) (see Appendix B).

IV.1.2.3. Recording On-Screen Students' Activity

To watch the behaviour of students from behind the curtain, a tool under the name of SNAGIT captured screenshots intermittently and saved them to a predefined location on students' computers. In other words, this tool was able to record and monitor all the on-screen activity at regular pre-defined intervals of time; the tool worked stealthily and did not interfere or delay any processes running on the computer (see Figure 33).

The utility of Snagit manifests in the possibility of tracking the progress of composing an essay; it is possible to know what has been done exactly on screen by looking at the recorded screenshots. We took advantage of this tool to record the steps followed by the students to compose their essays.

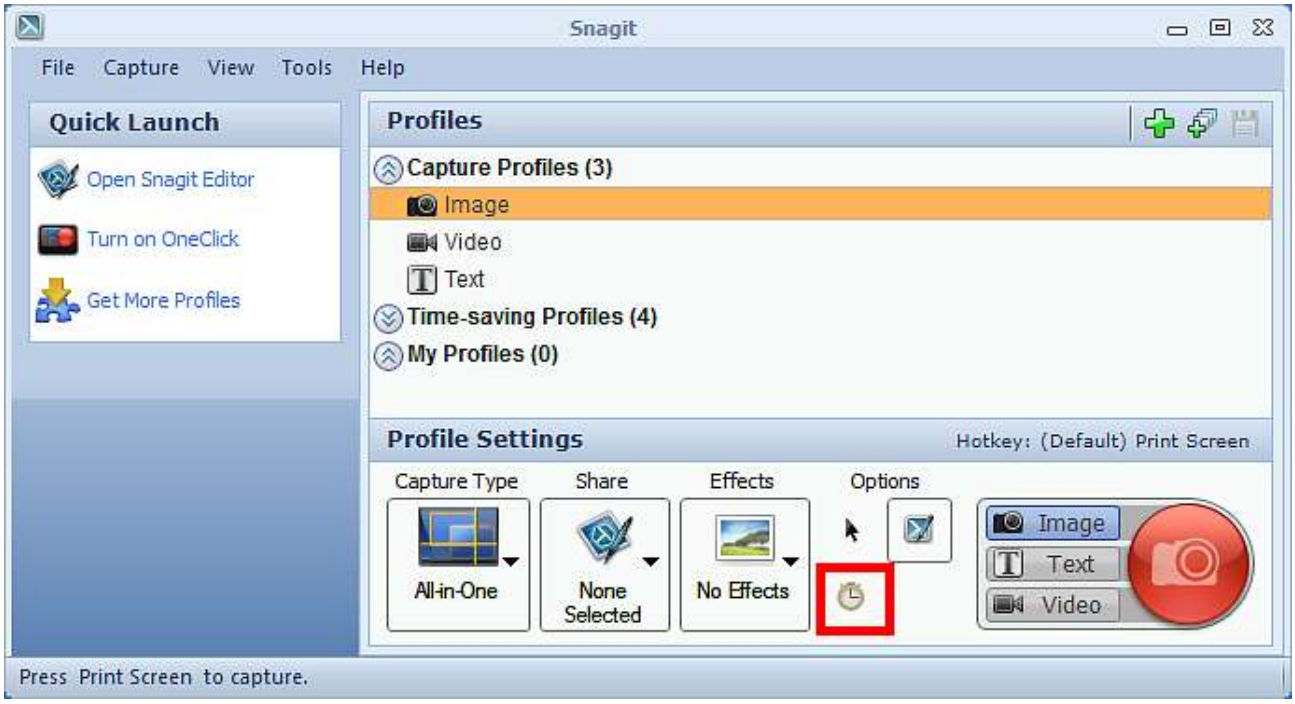


Figure 33: Snagit Main Interface (Version 11)

Snagit was installed on 8 workstations randomly selected and was set to capture one screenshot each 5 seconds (see Figure 34). This totalled approximately 1,080 screenshots per session (90 minutes) and per computer, i.e. ($\frac{5{,}400\ seconds}{5} = 1{,}080\ screenshots/session$).

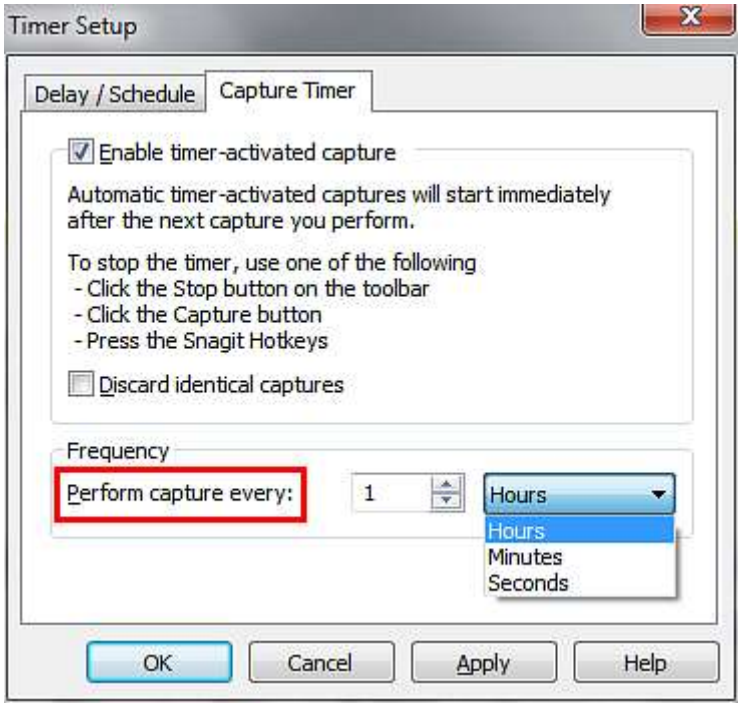


Figure 34: Capture Timer of Snagit

The data obtained was that of 24 students only. The images were later retrieved and saved in an external unit of storage.

Recording screens is a common practice now among scholars as research deals more and more with ICTs; it is considered as a novelty research tool. As an illustration of this practice, Tono (2011) used a special equipment (Eyemark Recorder) to enable him to track the movement of the eyes of his subjects while consulting both monolingual and bilingual dictionaries; the findings were reported in a research paper entitled: *Application of Eye-Tracking in EFL Learners' Dictionary Look-Up Process Research*.

IV.1.2.4. Students' Questionnaire

To assess students' computer literacy and to obtain feedback on the experience of using the Oxford iWriter, a questionnaire was administered at the end of the semester (see Appendix C). The questionnaire included 17 questions divided into two parts: computer literacy and composing with the help of OALD on CD-ROM.

Finally, Figure 35 shows a summary of the stages of our experiment with the experimental group:

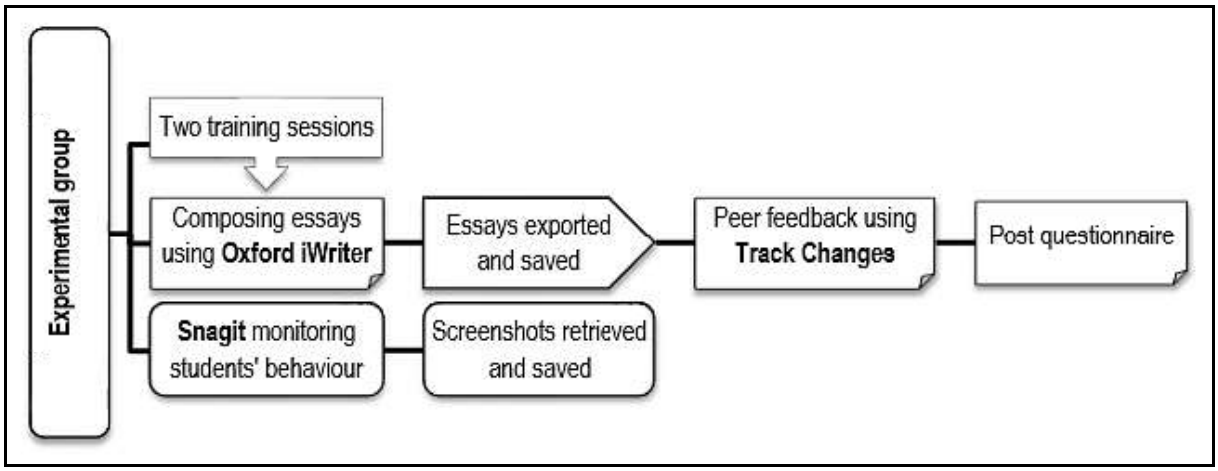


Figure 35: Summary of the Stages of the Experiment

IV.2. Results and Discussion

In this section, we will present the results obtained from both control group and experimental group.

IV.2.1. Data from Comparing Students' Essays

Comparing students' essays from both groups entailed three stages. Firstly, we assessed the students' written products using the analytic ESL COMPOSITION PROFILE of Jacobs et al. (1981) (see Chapter 1). From each group, we selected three essays dealing with the same topics but varying in their levels: TYPICAL (i.e. containing standard features of a good essay), INTERMEDIATE, and LOW.

The scoring scale of Jacobs et al. (1981) is "one of the best known and most widely used analytic scales in ESL" and "has been adopted by numerous college-level writing programs" (Weigle, 2002, p. 115). The analytic scale focuses on five aspects of writing: CONTENT, ORGANIZATION, VOCABULARY, LANGUAGE USE, and MECHANICS; the five aspects are scored 30, 20, 20, 25, and 5 points respectively. The total score is out of 100 points.

Secondly, after the assessment, and in order to determine the complexity of writing of the six essays, we carried out a lexical analysis in order to count the total number of vocabulary words and grammatical words (the spelling mistakes of the words were corrected).

Thirdly, each essay was checked out via the OXFORD 3000 TEXT CHECKER website against the Oxford 3000 list (see Chapter 3); the aim was to have a clear idea about the vocabulary range used in each essay. In a typical advanced text, 75–90% of the words will be Oxford 3000 keywords. In a typical high intermediate text, the percentage of words will be 90–95%. But in a typical low intermediate text, close to 100% of the words will be Oxford 3000 keywords.

IV.2.1.1. Comparison Group

In this section, we deal with the data concerning 3 essays by 3 different students of varying levels. These are named essays #1, #2, and #3 respectively (see Appendices D, E, F for the original handwritten versions).

IV.2.1.1.1. Essay #1

This essay is of low level; it contains 20 sentences within 5 paragraphs (see Figure 36).

– Some people prefer to live in a small town. Others prefer to live in a big city. Which place would you prefer to live in? Use specific reasons and details to support your answer.

City is a large important town, but town is a place with many buildings and houses. The living in the town is not the same one in the city. For that some people prefer to live in the city and others prefer to live in town. By the way I prefer to live in a big city for many reasons.

So, there is no enough means of transportation in the small town. The people can not move easely to achieve their needs, because they far from the vellage, in this case there is no communication with the people. I think living in the big city is better than living in a small town, because there are many means of confort which help people to move and to communicate for example cars, internet, cinema and labraries, etc.

In the other hand, in the small town the most people are not educational, especiely girls. Because there is no enough scools, may be in the town girls can not complete the study. They just learn how to write and read, and there is no equivelent between girls and boys. But, in the city there are alot of means of communication that halp students to learn in a good way. the most people are educational and cultral.

And, in the small town there is no choises of work. The most people are working in farming, and there is no machines that help them. However, in the city there are many choices of work, because it is the place of companies and factories. May be each one can get a simple work.

As a Sum up, every one wish to live a best life. For that people always look for a best thing, especialy for the place of living. Because in our life, we need to work, to educate and of course to communicate with the other people. As we Know the most people of small town are moving to big city.

Figure 36: Essay #1. Low Level Argumentative Essay

The lexical analysis of essay #1 is shown in Table 19:

VERBS	achieve are are are are are not are moving are working be be can cannot cannot communicate communicate complete educate get help help help is is is is is is is is is is is not know learn learn live live live live look may move move need prefer prefer prefer read think wish work write
NOUNS	boys buildings cars choices choices cinema city city city city city city city city comfort communication communication companies equivalence factories farming girls girls girls houses internet libraries life life living living living living machines means means means needs people people people people people people people people people people people place place place reasons schools students study thing town town town town town town town town town town transportation village way work work work
ADJ.	best best better big big big cultural educational educational good important large same simple small small small small small
ADV.	always easily especially especially far how however just there there there there there there there there there
PREP.	as between from in in in in in in in in in in in in in in in of of of of of of of of than to to to to to to to to to to to to with with with
DET.	a a a a a a a a each enough enough many many many many may most most most most no no no no no no some that that that that the the the the the the the the the the the the the the the the the the the the the the the the the the
PRON.	everyone I I it one one other others our their them they they we we which
CONJ.	and and and and and and and and and and and and and because because because because because but but for for for for for so
ABBR.	etc
PHRASES	a lot of by the way for example in the other hand in this case of course to sum up

Table 19: Lexical Analysis of Essay #1

Table 20 shows the assessment of the essay using the analytic scale of Jacobs et al. (1981):

ASPECTS OF WRITING	SCORE	INSTANCES
Content	11 (out of 30)	▪ Limited knowledge of the subject ▪ Little details ▪ Very general ideas
Organisation	10 (out of 20)	▪ Lack of cohesion ▪ Absence of opponents' point of view. ▪ Choppy: The essay contains a lot of short sentences, and the student writer changes the topic continually.
Vocabulary	8 (out of 20)	▪ Inappropriate choice of vocabulary: e.g. "most people are educational and cultural" to mean "most people are educated and literate" e.g. "we need to work, to educate" instead of to learn.
Language Use	9 (out of 25)	▪ Frequent grammatical mistakes: e.g. everyone wish, there is no choices. ▪ Wrong expressions: in the other hand, as a sum up.
Mechanics	2 (out of 5)	▪ Numerous spelling errors: *choises, *confort, *easely, *labraries, *vellage, etc.
Total Score	40/100	

Table 20: Assessment of Essay #1

The essay has 164 vocabulary words out of 324 words. Practically speaking, all the words used in the script are part of the Oxford 3000 list (except 'educational' which was intended to mean 'educated'). This suggests the very limited range of the student's vocabulary.

IV.2.1.1.2. Essay #2

This essay is of intermediate level; it contains 15 sentences within 4 paragraphs (Figure 37).

– "When people succeed, it is because of hard work. Luck has nothing to do with success." Do you agree or disagree with the quotation above? Use specific reasons and examples to explain your position.

Most of people agree that if you work hard in your life, your work or your study you will succed. Others do believe in luck and only because of it they could do any thing was seemed impossible for them. So, is it true that success is only because of hard work or luck is important too.

Lot of people do think that because they are lucky they succed. For instance, a student do not revise all his lessons exept for one, after that in his test he will find that lesson which he revised and he gets a good mark. That proves that luck plays its role in such situation. On the other hand we know that luck do not work every time, because hard worker students will find that their efforts will help them in future.

Also, if we take work for example it needs luck too. Many people get work only because they were lucky, may be because they were in the right place and the right time. Others are convinced that only hard work make you succed not only in your work but in your life with your family and friends. That make them trust in you because they Know that you are working hard to reach your goals.

Finally, when people succed it is because of hard work and that is difinitly right in most time and we cannot deny this fact. Luck has nothing to do with success because it is not a common rule, it means it happened rarely and randomely. So, we cannot depend on our luck because it is for the ones who do not believe in their abilities. Therefore, I think that hard work makes us successful.

Figure 37: Essay #2. Intermediate-level Argumentative Essay

Tables 21 and 22 show the lexical analysis of this particular essay:

VERBS	agree are working are are believe believe cannot cannot convinced could deny depend do do do do not do not do not do will find will find get gets happened has will help is not is is is is is is know know makes makes makes may be means needs plays proves reach revise revised seemed will succeed succeed succeed succeed take think think trust was were were work work
NOUNS	abilities efforts fact family friends future goals lesson lessons life life luck luck luck luck luck Luck luck lucky mark people people people people place role rule situation student students study success success test time time time work work work work work work work
ADJ.	common good hard hard hard hard hard hard-working important impossible right right successful true
ADV.	also definitely finally hard lucky only only only only randomly rarely right therefore too too

Table 21: Lexical Analysis of Essay #2 (Vocabulary Words)

PREP.	after except for in in in in in in in in in in of of of of on to to with with
DET.	a a a all every many most most such that that that that that that that that that that that that that that that that the the the this
PRON.	anything he he he his his I it it it it it it it it its nothing one ones others others our their their them them them they they they they they they us we we we we when which who you you you you you your your your your your your your
CONJ.	and and and and and and and because because because because because because because because because because because but for for if if or or so so
PHRASES	for example for instance lot of not only on the other hand

Table 22: Lexical Analysis of Essay #2 (Grammatical Words)

Table 23 shows the assessment of the essay using the analytic scale of Jacobs et al. (1981):

ASPECTS OF WRITING	SCORE	INSTANCES
Content	12 (out of 30)	▪ Non-substantive ▪ Less argumentative
Organisation	8 (out of 20)	▪ The thesis statement should not be a question. ▪ Absence of writer's standpoint.
Vocabulary	10 (out of 20)	▪ Collocational errors, e.g. luck do[es] not work.
Language Use	11 (out of 25)	▪ Frequent grammatical mistakes: e.g. was seemed, luck do not work, a student do not revise, etc. ▪ Excessive use of because (× 10).
Mechanics	3 (out of 5)	▪ Some spelling mistakes: *difinitly, *exept, *succed (× 4), *randomely.
Total Score	44/100	

Table 23: Assessment of Essay #2

In this particular essay, there are 142 vocabulary words out of 285 words. All the words used are part of the Oxford 3000 list except one (randomly) which is part of the Academic Word List. This rather indicates the limited vocabulary range of the student writer.

IV.2.1.1.3. Essay #3

This essay is of good quality; it contains 25 sentences within 5 paragraphs (see Figure 38).

– Some people choose friends who are different from themselves. Others choose friends who are similar to themselves. Which kind of friend do you prefer for yourself? Why?

It is innate that human being cannot live alone in society. He tends always to establish new relationships with others. Friendship is the most sacred relation in life. Everyone selects his friends relying on his own principles. Indeed, it is usually common that people choose friends who are similar to themselves while others are attracted by those who are purely different.

First of all, people choose their friends according to similarities between their personnalities and moral characteristics. they have a lot of things in common; they think in the same way, make the same choices, have the same solutions... So that, they feel more assured and confortable. However opponents think that such friends do not have opportunity to live new prespectives and experience new things in life. Since they come from the same background, they do not differ from each other and do not discover new sides of their relation.

Secondly, there is a well known saying; "Tell me who is your friend, I tell you who you are" that most people applied in their dailylife. They have the firm belief that others judged you whether you are a brave person or not according to your compagnions. For this reason, they always seek to have similar friends who share the same principles, and beliefs and sometimes the same habits. In contrast to this, this Kind of people neglect the fact that everyone is responsible for his acts and behaviour. to have good friends does not lead immediately that you are perfect. People however do not consider you as a good one since they do not deal with you. They believe that "you need to try first and trust after".

Finally, some relationships benefit from argument and discussion, and it is usual for close friends to have similar ideas and beliefs, to have attitudes and interests in common. The more intimately interested people become in each other, the more they rely on one another. So that, friendship becomes stronger and people stand close together and spend more time together. but, as we get to Know people, we take into account things like age, race, physical attractiveness, social status and intelligence. These factors will help out to strengthen relationship between people. It is not difficult to relate to people when there is a marked difference in age or in social origin and so on; history is full of good examples of friendship; the mutual support and understanding that results from shared different experiences, problems, and emotions does seem to create a powerful link which can get over differences in religion, social origin, and break down barriers of age, class or race...

To conclude, personnaly I have no doubt that friends play an important part in our lives, and although we may take the fact of friendship for granted, we often don't clearly understand how we make friends, while we get on well with a number of people. Actually, it much depends on how people meet and on favourable first impressions.

Figure 38: Essay #3. Typical Argumentative Essay

Table 24 shows the lexical analysis of essay #1:

VERBS	applied are attracted are are are are are become becomes being believe benefit break down can cannot choose choose come conclude consider create deal depends differ discover do not do not do not do not do not does does not don't establish experience feel get get get over have have have have have have have have will help out is not is is is is is is is is judged know lead live live make make may meet need neglect play relate rely results seek seem selects share spend stand strengthen tell tell tends think think trust try understand
NOUNS	acts age age age argument attitudes attractiveness background barriers behaviour belief beliefs beliefs characteristics choices class companions contrast difference differences discussion doubt emotions examples experiences fact fact factors friend friends friends friends friends friends friends friends friends friends friendship friendship friendship friendship habits history ideas impressions intelligence interests kind life life life link lives number opponents opportunity origin origin part people people people people people people people people people people people people person personalities perspectives principles principles problems race race reason relation relation relationship relationships relationships religion relying saying sides similarities society solutions status support things things things time understanding way
ADJ.	assured brave close comfortable common common common different different difficult favourable firm full good good good human important innate interested marked moral mutual new new new new perfect physical powerful responsible same same same same same same sacred shared similar similar similar social social social stronger usual well well-known
ADV.	actually alone always always clearly close daily finally first first how how however however immediately indeed intimately not often personally purely secondly sometimes there there together together usually
PREP.	after as as between between by from from from from in in in in in in in in in in in in like of of of of of of on on on on on on since since to to to to to to to to to to to to to to to to to to with with with
DET.	a a a a a a an each each more more more more most most much no some such that that that that that that that that that that that that that that the the the the the the the the the the the the the the these this this this those
PRON.	another everyone everyone he his his his I I it it it it it it me one one other other others others others our own their their their their themselves they they they they they they they they they they we we we we we we we when which who who who who who you you you you you you you you your your
CONJ.	although and and and and and and and and and and and and and and and and and and and and and and and and and and and and and but for for for or or or so so so whether while while
PHRASES	take (sth) into account first of all a lot of according to according to take for granted

Table 24: Lexical Analysis of Essay #3

Table 25 shows the assessment of this essay using the analytic scale by Jacobs et al.

ASPECTS OF WRITING	SCORE	INSTANCES
Content	20 (out of 30)	▪ Use of some proverbs: e.g. "Tell me who your friends are, and I'll tell you who you are" e.g. "First try and then trust".
Organisation	15 (out of 20)	▪ Use of cohesive devices: e.g. indeed, actually, however, first of all, secondly, etc. ▪ Absence of writer's standpoint. ▪ In the conclusion, the student writer seems indifferent about the topic.
Vocabulary	15 (out of 20)	▪ Use of some phrasal verbs: e.g. help out, break down, and relate to.
Language Use	18 (out of 25)	▪ Occasional grammatical mistakes.
Mechanics	4 (out of 5)	▪ Occasional spelling mistakes: *compagnions, *confortable, *personnalities, *personnaly. ▪ Some flaws in capitalization.
Total Score	72/100	

Table 25: Assessment of Essay #3

In this particular essay, there are 279 vocabulary words out of 499 words. There are 14 words which are not part of the Oxford 3000 list: attractiveness, companions, differ, favourable, innate, intimately, marked, mutual, neglect, perspectives, sacred, secondly, similarities, and strengthen. Based on this, the vocabulary range of the student seems to be large.

IV.2.1.2. Treatment Group

In this section, we present the data related to 3 essays by 3 different students of varying levels. These are named essays #4, #5, and #6 respecticely.

IV.2.1.2.1. Essay #4

This essay is of low level. It contains 22 sentences within 6 paragraphs (Figure 39).

– Some people prefer to live in a small town. Others prefer to live in a big city. Which place would you prefer to live in? Use specific reasons and details to support your answer.

Everyone wants to enjoy her or his life. There are many places where the person can feel there at ease, and this depends on the person wants and how s/he gets his or her relax. Enjoying our life does not mean to complicate it in order to look for the good places, because we cannot relying only on one side. however we should take to account everything in this life so for me living in small town is much better than living in big cities.

Living in small cities provide a confortible life. Because it works with all of the condition of human being however the differences of people vary ie: even if the person is very poor he may adapt in it because living in such small town does not cost much mony. On the other hand living in big cities needs to be at list belong to middle classe. In addition of that we can move to any place with our feet instead of the transportation that need a special payment.

On the other hand living in small town keep as healthy. However people rely on nature much more than the industry that turns to serious illnesses. ie: they eat only from What the ground gives them. because i think that it contains all the necessities of life. It is said in science that fresh food make life longer and also all what the person put in it contribute in pure air.

Some people says that living in small town prevents the person from injoying his or her life according to the new development which happend in the external world. However what can be found in big cities cannot be found in small town ie: the sea, the modest irea of living, some electronic devices such as machines, internet. Moreover there is a common belief that every one who lives in small town classified as close minded because s/he has not interacted yet with a developed people.

Living in small town does not prevent any person from enjoying her or his life. However there are some persons who cannot be far from their town even if we suppose that it has negative points, those persons are satisfied in it. Moreover it is impossible to passe the hole life enjoying it because no one is free all of the time and there are many serious things which normaly we have to occupy our time with like working and studying. On the other hand all the apportunities still valid for those who living in small town in which they can go wherever they want in the holidays to develop their knowledge about the other countries.

All in all every one has the wright way to enjoy his or her life. so living in small town is not a bad choose because nowadays every thing is in our hand, especially there is transportation that can move us and also helping us to be aware from the new technology.

Figure 39: Essay #4. Low Level Essay

Table 26 shows the lexical analysis of essay #4:

VERBS	adapt are satisfied are are are be be be be be belong can can can can can cannot cannot cannot classified complicate contains contribute cost depends develop does not does not does not eat enjoy enjoy feel found found gets gives go happened has has has not interacted have help~~ing~~ is not is is is is is is is is keep liv~~ing~~ lives look make may mean move move need needs occupy pass prevent prevents provide put relax rely rely~~ing~~ said says should suppose think turns vary want wants wants works
NOUNS	air area being belief choice cities cities cities cities condition countries development devices differences enjoying enjoying enjoying enjoying feet food ground hand holidays illnesses industry internet knowledge life life life life life life life life life living living Living living living living living Living living living machines middle class money nature necessities opportunities payment people people people people person person person person person person persons persons place places places points science sea side studying technology things time town town town town town town town town town transportation transportation way working world
ADJ.	aware bad better big big big comfortable common developed electronic external free fresh good healthy human impossible longer modest narrow-minded negative new new other poor pure right serious serious small small small small small small small small small special valid whole
ADV.	also also especially how however however however however however moreover moreover normally nowadays only only still there there there there there very
PREP.	about according to as from from from in in in in in in in in in in in in in in in in in in in in in in in instead of like of of of of of of on on on than than to to to to to to to to to to to to with with with with with
DET.	a a a a a all all all all all all any any many many more much much much one some some some such that that that that that that that that that the the the the the the the the the the the the the the the the the the the the the the the the this this those those
PRON.	everyone everyone everyone everything everything everything everything he her her her her her his his his his his I it it it it it it it it it it me no one our our our our s/he s/he their their them us us us we we we we we what what what where which which which who who who
CONJ.	and and and and and and because because because because because because because because for for for or or or or or so so wherever yet
PHRASES	all ~~of~~ the time at ease at least even if even if far from in addition to in order to on the other hand on the other hand on the other hand such as take into account

Table 26: Lexical Analysis of Essay #4

Using Jacobs et al.'s scale, the assessment yielded the following results (Table 27):

ASPECTS OF WRITING	SCORE	INSTANCES
Content	10 (out of 30)	▪ Little substance
Organisation	8 (out of 20)	▪ The introduction is not appropriate. ▪ Lack of logical sequencing.
Vocabulary	8 (out of 20)	▪ Collocational errors: e.g. *close minded* to mean *narrow-minded*
Language Use	8 (out of 25)	▪ Recurrent grammatical mistakes: e.g. we cannot relying. ▪ Misuse of *however*
Mechanics	1 (out of 5)	▪ Frequent spelling mistakes: *apportunities, *confortible, *injoying, *irea, *mony, *normaly, *wright, etc. ▪ Run-on sentences.
Total Score	35/100	

Table 27: Assessment of Essay #4

In this essay, there are 249 vocabulary words out of 492 words. After checking the text, 5 words do not belong to the Oxford 3000 list; these words are as follows: external, interacted, modest, necessity, and nowadays. This suggests the vocabulary range of the student writer to be somehow acceptable.

IV.2.1.2.2. Essay #5

This essay is of intermediate level. It contains 23 sentences within 6 paragraphs (Figure 40).

– "When people succeed, it is because of hard work. Luck has nothing to do with success." Do you agree or disagree with the quotation above? Use specific reasons and examples to explain your position.

"Success does not come to you, you go to it" every time we do not acheive the result that we desire, we always think that we have a lot of bad luck. I personally think that we are only laying at ourselves, and we don't have the enough courage to face the reality. I also believe that the majority of famous people success is due to hard work, and luck has no relation with it.

First of all, success is a kind of reward for a long time of hard working. We see that with the famous people. Behind their success they spent all their time, strength and carefulness. For example, sir Isaac Newton tried hundreds of substances with "try and error" untill he discovered the idea of gravity. so, success is only made by people who are diligent.

In the second place, acheiving success depends on trying our best not waiting for luck. a simple example of that is when somebody wants to speak English fluently, but he does not spend his time learning vocubulary, practising and speaking English as much possible. The result that he cannot speak English even correctly. In this case, success has a relation with the persons ability not with luck.

In contrast, there are some people who believe in luck because of their previous experiences. They say that one example which does support this when two friends were prepering for their grammar exam, the first one studied all the content, exept few points and his friend studied only these few points. Unfortunatly, the majority of the questions in the exam were on these few points. As a result, the first one got a low grade and the second got a high grade. So luck is the only way for success.

otherwise, the opponants may not be correct, we can not presise which lesson we do revise instead of revising all the lessons. This thing for me is a crazy because this is illogical, relying on something which is not permanent. So luck could not be used as a basic way to reach success.

In conclusion, success could not happen when we rely on luck. Success is made by time, attempt, and even blood. So hard working is a permanent way of success, whereas; luck is a casual one.

Figure 40: Essay #5. An Intermediate Level Argumentative Essay

Table 28 shows the lexical analysis of essay #5:

VERBS	achieve are lying are are be be believe believe cannot cannot come could not could not depends desire discovered do not do does does not does not don't face go got got happen has has have have is is is is is is is is not is is due made made may not precise reach rely revise say see speak speak spend spent studied studied support think think tried used wants were preparing were
NOUNS	ability achieving attempt blood carefulness case conclusion content contrast courage English English English error exam exam example example experiences friend friends grade grade grammar gravity hundreds idea kind learning lesson lessons luck luck luck luck luck luck luck luck luck majority majority opponents people people people people person's place points points points practising questions reality relation relation relying result result result revising reward speaking strength substances success success success success success success success success success success success success thing time time time time time trial trying vocabulary waiting way way way work working working
ADJ.	bad basic best casual correct crazy diligent famous famous few few few hard hard hard high illogical long low permanent permanent possible previous simple
ADV.	also always correctly even even fluently not not only only only only otherwise personally there Unfortunately
PREP.	as as as at behind by by except in in in in in in instead of of of of of of of of of on on on on we with with with with with
DET.	a a a a a a a a a a all all all enough every first first much no one one one second second some that that that that that that that that the the the the the the the the the the the the the the the the the the the the the the these these this this this this to to to to to to two
PRON.	he he he his his I I it it me one our ourselves somebody something their their their their they they we we we we we we we we We when when when which which which who who you you
CONJ.	and and and and and and and and because because but for for for for for So So So so until whereas
PHRASES	a lot of First of all For example Sir Isaac Newton

Table 28: Lexical Analysis of Essay #5

Using Jacobs et al.'s scale, the assessment is shown in Table 29:

ASPECTS OF WRITING	SCORE	INSTANCES
Content	18 (out of 30)	▪ Use of some examples (Newton)
Organisation	14 (out of 20)	▪ Moderate use of cohesive devices: e.g. in contrast, as a result, in conclusion. ▪ Inclusion of opposing point of view and rebuttal.
Vocabulary	13 (out of 20)	▪ Try and error → trial and error
Language Use	18 (out of 25)	▪ Mistakes in using prepositions: e.g. *lie to* → *lie at*
Mechanics	3 (out of 5)	▪ Occasional spelling mistakes: *acheive, *exept, *unfortunatly, laying (for lying), *prepering, *presise. ▪ Faulty capitalization
Total Score	66/100	

Table 29: Assessment of Essay #5

The student writer used 212 vocabulary words out of 383 words. As for the Oxford 3000 list, only 6 words do not belong to the list; they are as follows: casual, diligent, English, fluently, gravity, and illogical. The vocabulary range of the student writer is acceptable.

IV.2.1.2.3. Essay #6

This essay is of an acceptable level; it counts 26 sentences within 6 paragraphs (see Figure 41).

– Some people choose friends who are different from themselves. Others choose friends who are similar to themselves. Which kind of friend do you prefer for yourself? Why?

One day, an ambitious and modest guy had a good idea for a future plan that will ensure his financial situation. Although it was a good and a fruitful project, the poor man had no means to fulfill his project. Fortunately this man had a reliable wealthy friend who arranged his lack of means so he can start his project. According to this short story, the fact of having friends had become something necessary these days. However people do choose there friends basing on two main features. For the first one is that people do pick their friends according to the differences that distinguish both of them whereas others choose friends who resemble to them more. Because of the numerous advantages of having a complete different friend from us, I do prefer to have such friends thus I do believe that two different friends when together form a strong unity.

For first, having different friends from ourselves is a good way to make both friends consolidate their unity. To simplify this point let's take for an example a shy and non charismatic person. This person can not stand with another same person, because being both shy will prevent any further ambitious plan thus they won't find neither the courage nor the appropriate words to express themeselves. This why psychologists recommend for those people to have a complete different friend. Also having a charismatic and trustworthy friend will encourage that person to get rid of the negative aspect of shyness. So having a different friend is like a magnet each part of it differs from the other but they have a strong and unbreakable unity and it the same for such kind of friends they will have a really unshakable friendship.

A second other advantage of having a different friend is that of discovering new people and new mentalties and if possible different race and religion. Although it is preferable to have different friends it is also a great experience to share the friendship with other people who are not within the living area of anybody ie having foreign friend would be an enjoyable experience as it will allow us to merge with cultures which are not similar and of course it allow to know other religions. This kind of experience will widen the knowlege of the person who does experience it and also let him know different languages. In addition to this having this kind of friend let us having the opportunity of being invited by some foreign friends and this mean the ability of travelling abroad and visiting wonderful places and countries.

For some other people who don't agree, they prefer to have similar friends. To bound with someone who is alike is better as this person will be familiar and it would be easy to build a strong relationship with him. Also there are some people who don't want different friends because of their fear of being frustrated by opportunist fake friends who will abandon them at the first need.

Although these people are right at some points they are wrong at other ones. It is right that it is much easier to bound with someone similar but what of someone shy and non charismatic. If two friends share the same attitudes it would be difficult to achieve any ambitious project wether it is common or individual. Also having fear of anything about new different friends and foreign ones will seal the spirit of adventure and will leave that person bound only to his near entourage and will prevent any new discoveries.

As a conclusion, different friends are like garden if you have only one plant it will make it look ugly but if there are different plant it would make it cheerful and beautiful. This is like friends when they are different similar or different but having different friends is surely better as it always a new experience.

Figure 41: Essay #6. Typical Argumentative Essay

Table 30 shows the lexical analysis of essay #6:

VERBS	will abandon achieve agree allow will allow are are not are not are are are are are arranged would be would be would be will be become believe bound bound build can cannot choose choose consolidate differs distinguish do do do do does don't don't will encourage will ensure experience express won't find form fulfil had had had had have have have have have have will have is is is is is is is is is is is is is know know will leave let let let look make would make will make mean merge pick prefer prefer will prevent will prevent recommend resemble will seal share share simplify stand start take want was will widen
NOUNS	ability advantage advantages adventure area aspect attitudes being being being conclusion countries courage cultures day days differences discoveries discovering entourage example experience experience experience experience fact fear fear features friend friend friend friend friend friend friend friend friendship friendship future garden guy having having having having having having having having having having having idea kind kind kind knowledge lack languages magnet man man means means mentalities need opportunity part people people people people people people people people person person person person person person person places plan plan plant plant point points project project project project psychologists race relationship religion religions shyness situation spirit story travelling unity unity unity visiting way words
ADJ.	alike ambitious ambitious ambitious appropriate based beautiful better better bound charismatic cheerful common complete complete different different different different different different different different different different different different different different different different difficult easier easy enjoyable fake familiar financial foreign foreign foreign fruitful frustrated further good good good great individual invited living main modest near necessary negative new new new new new non-charismatic non-charismatic numerous opportunist poor possible preferable reliable right right same same same short shy shy shy similar similar similar similar strong strong strong trustworthy unbreakable unshakable wealthy wonderful wrong
ADV.	abroad also also also also also always fortunately however neither only only really surely there there thus thus together ugly why
PREP.	about as as as as at at at by by from from from like like like of of of of of of of of of of of of of of of of of of of of of of of of on to to to to to to to to to to to to to to to to to to to to to to with with with with with with with within
DET.	a a a a a a a a a a a a a a a a a a a a a an an an any any any each first first first more much no second some some some some such such that that that that that that that that the the the the the the the the the the the the the the the the the the the the the these these this this this this this this this this this this those two two two
PRON.	another anybody anything both both both he him him his his his his his I I it it it it it it it it it It it it it it it it it it it one one one ones ones other other other other other other others ourselves someone someone someone something their their their their them them them themselves they they they they they they us us us us what when when which who who who who who who who who you
CONJ.	although although although and and and and and and and and and and and and and and and and and and and and and and and and and and and because because because but but but but for for for for for for for for if if if if nor or or so so whereas whether
PHRASES	according to according to get rid in addition of course

Table 30: Lexical Analysis of Essay #6

The assessment using Jacobs et al.'s scale is shown in Table 31:

ASPECTS OF WRITING	SCORE	INSTANCES
Content	22 (out of 30)	▪ Use of examples
Organisation	17 (out of 20)	▪ Opposing argument and refutation in separate paragraphs (as indicated by the suggested framework).
Vocabulary	17 (out of 20)	▪ non charismatic → uncharismatic ▪ Use of *guy* which is not academic English.
Language Use	20 (out of 25)	▪ Occasional grammatical mistakes: e.g. it allow, this mean. ▪ Use of synonyms: e.g. choose, pick.
Mechanics	4 (out of 5)	▪ Infrequent spelling mistakes: *knowlege, *themeselves, *wether, there (instead of *their*)
Total Score	80/100	

Table 31: Assessment of Essay #6

This essay makes use of 358 vocabulary words out of 649 words. The essay contains 29 words that are not from the Oxford 3000 list: alike, ambitious, charismatic, consolidate, differ, entourage, fake, fortunately, fruitful, frustrated, fulfil, magnet, mentalities, merge, modest, numerous, opportunist, preferable, psychologists, reliable, resemble, shyness, simplify, trustworthy, unbreakable, unity, unshakable, wealthy, and widen.

This suggests – according to the logic of the dictionary maker – the student's wide vocabulary range.

IV.2.1.2.4. Comparing Students' Performance in End-of-semester Exams

For further confirmation or disconfirmation of the results discussed above, we compared the marks of the students obtained before the experiment (semester 1) with those obtained after the experiment (semester 2). We used holistic scoring in assessing students' papers.

We note that all marks were out of 15 as the standard practice in the department of English requires that written expression teachers do not mark beyond 15; in addition, we counted only the exam marks without considering the grades of continuous assessment. Table 32 shows the marks of the experimental group in both semesters of the academic year.

DATA	SEMESTER 1	SEMESTER 2
No. of Students (n)	58	58
Mean ($\bar{X}$)	8.67	8.47
Standard Deviation (σ)	1.63	1.43

Table 32: Students' Exam Marks before and after the Experiment

Although the arithmetic mean of marks decreased in the second semester compared with the first semester, individual performances of students differed a lot. Over a third of students (34.7%) did improve their score in semester 2. Such a low percentage is due, we assume, to the short period of exposure and practice using the software.

For the purposes of comparison, we provide exam marks of other groups – taught by other teachers – obtained in the second semester:

DATA	Exp. Group	Group A	Group B	Group C	Group D
No. of Students (n)	58	65	62	66	71
Mean ($\bar{X}$)	8.47	8.85	7.8	7.52	8.96
Standard Deviation (σ)	1.43	1.98	1.57	1.43	1.13

Table 33: Exam Marks of the 2nd Semester from Other Third-Year Groups

IV.2.1.3. Comparing Findings from Both Groups

The following table recapitulates the findings related to all the six essays:

	Essays	Total Score/100	Paragraphs	Sentences	Total Number of Words	Lexical Words	Lexical Density	Spelling Mistakes
Control Group	**Essay #1**	40	5	20	324	164	50.6%	12
	Essay #2	44	4	15	285	142	49.8%	8
	Essay #3	72	5	25	499	279	≈56%	6
Experimental Group	**Essay #4**	35	6	22	492	249	50.6%	16
	Essay #5	66	6	23	383	212	55.3%	9
	Essay #6	80	6	26	649	358	55.1%	4

Table 34: Recapitulation of Experimental Results

By comparing the scores, two essays from the experimental group were better than their counterparts in the control group. This seems to have a relationship with an effective use of the Oxford iWriter. However, essay #4 from the experimental group did not score as high as its counterpart in the other group; it is estimated that the writer of this particular essay did not take full advantage of the software.

Regarding the organisation, students from the treatment group did structure their essays according to the six-paragraph framework provided by the application. These paragraphs dealt with arguments, opposing arguments, and refutation exactly as suggested by the outline. Yet, students from the control group seemed less informed about the organisation of an argumentative essay. They often swept aside the opposing standpoints together with refutation.

As for the total number of words, students from the experimental group tended to write more using the application; even weak students from the experimental group wrote more than their counterparts in the other group. However, writing a lot did not result in good quality all the time. Interestingly, being able to consult the dictionary easily and quickly meant that students could learn new vocabulary and find synonyms to be included in their essays. In this respect, many words they used are not part of the Oxford 3000 list of the most basic and familiar words in English.

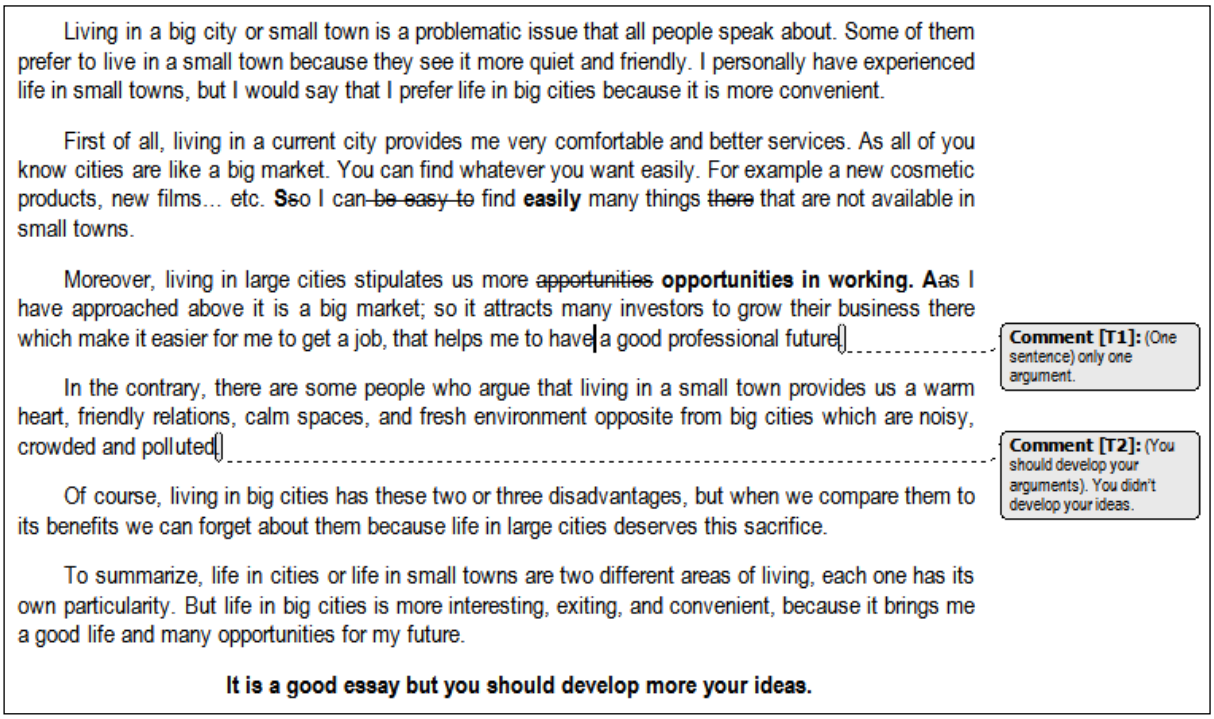
Obviously, there were differences between the performances of students in both groups. However, it seems that using the application had its positive effects on some aspects of the composing processes of some students. Good students improved their written products more than low or intermediate ones. Yet, we assume that with continuous practice the improvement would have been noticeable for the majority of students.

IV.2.2. Data from Peer Reviews

As expected, when revising their peers' essays students spotted only surface mistakes such as spelling mistakes and capitalization flaws. Yet, some students benefited from the practice of peer evaluation which helped them raise awareness of their own mistakes and drawbacks.

In the experimental group, the on-screen peer feedback enabled students to interact further with computers and the application. We think that with time they would gain good command of typing and, thus, produce texts more quickly.

Figure 42 shows the use of the Track Changes feature by the student writers of the experimental group:



Living in a big city or small town is a problematic issue that all people speak about. Some of them prefer to live in a small town because they see it more quiet and friendly. I personally have experienced life in small towns, but I would say that I prefer life in big cities because it is more convenient.

First of all, living in a current city provides me very comfortable and better services. As all of you know cities are like a big market. You can find whatever you want easily. For example a new cosmetic products, new films... etc. **S**~~s~~o I can ~~be easy to~~ find **easily** many things ~~there~~ that are not available in small towns.

Moreover, living in large cities stipulates us more ~~apportunities~~ **opportunities in working. A**~~a~~s I have approached above it is a big market; so it attracts many investors to grow their business there which make it easier for me to get a job, that helps me to have a good professional future.

Comment [T1]: (One sentence) only one argument.

In the contrary, there are some people who argue that living in a small town provides us a warm heart, friendly relations, calm spaces, and fresh environment opposite from big cities which are noisy, crowded and polluted.

Comment [T2]: (You should develop your arguments). You didn't develop your ideas.

Of course, living in big cities has these two or three disadvantages, but when we compare them to its benefits we can forget about them because life in large cities deserves this sacrifice.

To summarize, life in cities or life in small towns are two different areas of living, each one has its own particularity. But life in big cities is more interesting, exiting, and convenient, because it brings me a good life and many opportunities for my future.

It is a good essay but you should develop more your ideas.

Figure 42: A Peer-Reviewed Essay Using Track Changes

IV.2.3. Data from Recording Computer Screens

The observation of screenshots captured through Snagit software provided better understanding of the performance of a number of students of the experimental group. Moment by moment, the students' process of writing could be observed over the period spent in the language laboratory. It should be noted here that the data concerned only 24 students (8 from each of the three subgroups) because of the intricacy of managing the huge amount of data generated by Snagit. Yet, it was convenient to generalise the results to other students.

One of the first remarks drawn from the recorded images is that many students did not start their task of writing immediately after entering the language lab; some of them spent ten minutes or so playing on their workstations. While we were unaware of them, some students played card game or searched for music and audio files. A less distracting practice was when some students searched for some illustrations (such as kitchen utensils) that did not have necessarily a direct relation with their assignments.

We also observed the relative slowness of a number of students in manipulating their computers. Indeed, some students spent a considerable amount of time in order to finish their essays; other students did not even know that the SHIFT key on the keyboard is used for capitalization. The final written products of these students were affected by unfamiliarity with computers though using the application effectively requires just some basic computer literacy. Conversely, some students were rather proficient that they could type a whole essay during a single session inside the language laboratory.

Most of the time, many students passed over the planning stage as well as the revision stage; they rather progressed in a linear fashion from introduction through conclusion without checking the spelling and other surface features of the text. This is possibly due to time constraints as students were required to finish typing their essays by a specific time. .

Also, the screenshots showed many students looking up words in the dictionary quite frequently. After finding the required headword, they read definitions, examples and chose synonyms. However, it was noticed that students rarely consulted other sections of the software. The same thing applies to checklists provided within the Oxford iWriter section.

Another remark concerns spelling mistakes. We realised that some students were not even aware that there was a mistake, and, therefore, they did not bother to look it up in the dictionary. This resulted in the mistake to remain till the end of their composition. The application does not highlight misspelt words. It is up to the learner to double click on the suspicious word and check it in the pop-up dictionary window.

Finally, the recorded screenshots revealed a dishonest practice from a lazy student who deliberately brought a USB drive with him; he intended to (but could not) copy and paste a ready-made text from the Internet into the Oxford iWriter. He was unaware that there was a 'candid camera' recording his actions.

IV.2.4. Students' Questionnaire: Data Analysis

In this section, we discuss the data obtained from administering a questionnaire at the end of the experiment.

IV.2.4.1. Section One: Computer Literacy

The aim behind this section of the questionnaire is to have a clear idea of students' computer literacy. It contains nine basic questions.

Question 1: Do you have a computer at home?

PC	**YES**	**NO**
Number of Students	50	8
PERCENTAGE	86.2%	13.8%

Table 35: Students' Answers to the Question about Having a PC or Not

The absolute majority of students had a computer at home (86.2%). This suggested that the subjects were relatively familiar with computers. Yet, the computers were not necessarily at their full disposal; three students reported they could not use their computers freely.

Question 2: For how many years have you been using computers?

Years	**< 1 Year**	**2 – 3 Years**	**4 – 5 Years**	**> 5 Years**
Number of Students	12	14	9	23
PERCENTAGE	20.7%	24.1%	15.5%	39.7%

Table 36: Students' Answers to the 2nd Question

The results showed that a considerable number of students (79%) had been using computers since at least when they got their baccalaureate. This confirms the results obtained in question one and suggests that the subjects were more or less computer literate.

Question 3: Which operating system does your computer run?

WINDOWS	**XP**	**VISTA**	**7**	**OTHER**	**I DON'T KNOW**
Number of Students	36	1	10	/	11
PERCENTAGE	62.1%	1.7%	17.2%	/	19%

Table 37: Students' Answers to the Question about Operating Systems

The aim behind this question was to reveal whether the informants were familiar with computers by asking about operating systems. The majority of students (over 80%) claimed their knowledge of one of the three versions of Windows operating systems. This was a testimony to a certain acquaintance with computers.

Question 4: Are you familiar with typing on computers (keyboarding)?

KEYBOARDING	**YES**	**NO**	**SOMEHOW**
Number of Students	23	1	34
PERCENTAGE	39.7%	1.7%	58.6%

Table 38: Students' Answers to the Question about Keyboarding

As for the typing skills, the participants split up into two main categories: about 40% claimed they were familiar with typing on computers (e.g. writing emails) while about 60% reported that they were less familiar with this task. The ability to type on a keyboard is quite important for on-screen writing.

Question 5: How can you describe your use of word-processing programs (e.g. Word)?

WORD	**VERY GOOD**	**TYPICAL**	**POOR**	**N/A**
Number of Students	15	38	4	1
PERCENTAGE	≈26%	65.5%	≈7%	1.7%

Table 39: Students' Answers to the Question about Word-processing Programs

This was another question about their typing skills. The participants showed their familiarity with word-processing programs: A quarter (¼) claimed they were very good users and two-thirds (⅔) asserted that they were typical users of this type of applications. Indeed, using Microsoft Word in peer reviews was not problematic for the majority of students.

Question 6: Which language(s) do you often use to type on computers?

LANGUAGE	**ARABIC**	**FRENCH**	**ENGLISH**
Number of Students	10	27	21
PERCENTAGE	17.2%	46.6%	36.2%

Table 40: Students' Answers to the Question about Language

The results showed that 17.2% of the subjects were used to type in Arabic and 36.2% in English. Interestingly, nearly half of the students claimed they were used to type in French, the language considered by many people as the second language in Algeria.

Question 7: Do you have an email account? Why?

EMAIL	**YES**	**NO**
Number of Students	28	30
PERCENTAGE	48.3%	51.7%

Table 41: Students' Answers to the Question about Email

We asked this particular question to get an idea about students' access to the Internet. Having an email account may be a testimony to computer literacy. Back then, half of the students (51.7%) did not have email accounts; they seemed unaware of any potentials for emails.

Students gave various reasons for not having emails such as not having either computers or Internet connection. Here are some answers to this question:

- Some students did not have computers or an Internet connection:

- "I like it but I haven't a computer at all," said S. B. [1]

- "I haven't the computer," said M. B.

- "I have not internet [*sic*] and I do not like it so much," said M. B.

- "My computer haven't [*sic*] the Internet," said C. C.

- "I do not have internet at home," said D. B.

- Other students did not have the know-how about opening an email account:

- "I don't know how to open one; I tried but I couldn't," said N. B.

- "I do not know how I open an email account," said S. K.

- Interestingly, some students claimed they did not feel like it:

- "I don't care about it, and I feel bord [*sic*] when I use it," said O. B.

- "I don't like it," said A. G.

- As for those who had email accounts, they gave some practical reasons:

- "To contact people, to have news about many things specially a work," said Y. M.

- "For keep [*sic*] contacting friends and universities," said K. C.

- "Only for the inscription [*sic*] of the American Corner," said S. D.

- "To be in contact with my friends, to recieve [*sic*] files," said S. K.

- "To speak or chat with other people & to send things to my teachers for example," said F. M.

- "[To] receive e-newsletters, e-lessons from different websites," said I. A.

[1] Initials refer to the first and family name of the student.

- Other subjects used their email to communicate with their friends and their family members:

- "Generally for staying in touch with my relatives abroad," said A. B.

- "For connecting with my familly [*sic*] and friends," said M. Z.

- "I use it to exchange letters with my friends," said C. N.

- "I have an email for chatting," said Dj. O.

- "I have friends and I chat with them on facebook, MSN, etc.," said H. Z.

Question 8: How often do you communicate in English over the Internet?

COMMUNICATION	**Quite Frequently**	**Frequently**	**Rarely**	**Never**
Number of Students	4	13	22	19
PERCENTAGE	≈7%	22.4%	≈38%	32.8%

Table 42: Students' Answers to the Question about Electronic Communication

The Internet provides considerable opportunities for EFL learners to practise their English; however, it seems that students are not taking full advantage of that.

Based on their answers, we distinguished three categories of students: those who communicated frequently or quite frequently on the Internet (nearly a third ⅓), those who did it rarely (≈38%), and those who never did it (nearly a third ⅓).

Question 9: What is your preferred way of writing an essay?

Method of Writing	**Pencil-and-Paper**	**Computer**
Number of Students	39	19
PERCENTAGE	67.2%	32.8%

Table 43: Students' Answers to the Question about their Preferred Method of Writing

In their answers to this particular question, the subjects diverged sharply. A very significant proportion of them (over two thirds ⅔) preferred the conventional way of composing an essay, i.e. using pencils and papers. Only a third (⅓) claimed their preference for typing rather than writing essays in longhand.

This can be explained in the light of the data retrieved from Question 4 (above) about typing skills as 40% only claimed their familiarity with keyboarding. We can also think about computer *anxiety* in some students who seemed less enthusiastic about the software, an attitude which caused them to be very slow writers.

As a conclusion to this section, we can consider that the subjects are – on the whole – computer literates, though we admit that we had to teach basic computer skills to a number of students in the language laboratory.

IV.2.4.2. Section Two: Assessing the OALD on CD-ROM

In this section, students provided feedback on the application. The section consists of seven questions.

Question 10: After using the application, have you improved your written products?

IMPROVEMENT	**YES**	**NO**	**SOMEHOW**
Number of Students	38	6	14
PERCENTAGE	65.5%	10.3%	24.1%

Table 44: Students' Answers to the Question about Improving the Written Products

The majority of students (two thirds ⅔) claimed they had improved some aspects of their written products in the course of a semester. Others (a quarter ¼) claimed limited progress while a tiny proportion (10.3%) reported nothing had improved in their writings.

Question 11: If you think Oxford iWriter is of no or limited utility, can you say why?

The question here put forward some suggestions for why students thought the application was rather not helpful. The suggestions were as follows:

- The application is complicated. I could not manage to become familiar with it.
- I have poor typing skills and/or limited knowledge about computers. I cannot write effectively on a computer in the same way I write on a paper.
- I do not see any practical purpose in using such an application. Writing on a paper is much better.

Those students who claimed minor or no improvement after the experiment explained the main reason had a relation with typing skills; a small minority of them considered the application too complicated.

*Question 12: Overall, did you find **Oxford iWriter** helpful?*

iWriter's Rating	**1**	**2**	**3**	**4**	**5**
Number of Students	8	4	8	14	24
PERCENTAGE	13.8%	6.9%	13.8%	24.1%	41.4%

Table 45: Students' Answers to the Question about Rating Oxford iWriter

Here students were required to give their own assessment of the application by attributing an overall score out of 5. As far as the persuasive type of writing is concerned, the average score by all students was 3.7 out of 5. Actually, a proportion of 41.4% gave the highest score (5 out of 5) to the application as being effective in this type of writing.

Question 13: In which parts of the writing process did you find Oxford iWriter useful?

Again, the students were required to give their own assessment of the application by attributing a score out of 5 for each one of the seven rubrics: organization, drafting, proofreading, vocabulary, grammar, spelling, and mechanics. In the event that they did not assign any score, it meant they did not see any utility or did not go through that stage because "not every writing task passes through every stage" (Williams, 2003, p. 106). The score, in this case, equals zero.

As for ORGANIZATION, the students found the application of moderate help despite the frameworks provided for each type of writing; it was given an average score of 2.3 out of 5. Similarly, the subjects did not think the software was of great help during the composing processes. DRAFTING and PROOFREADING averaged 1.75 and 1.5 (out of 5) respectively.

The OALD on CD-ROM is meant to help students acquire vocabulary. Indeed, as for VOCABULARY, the average was 2.8 (out of 5) with 46% of the subjects who fully appreciated the help of the dictionary in this respect by assigning a score of 4 or 5 (out of 5).

The application was less advantageous to students as far as GRAMMAR is concerned; it was rated 5 (out of 5) by only 17% of the subjects.

As for mechanics, the application was much appreciated for its help with the spelling of words. Punctuation and capitalization, however, seemed far beyond the assistance of such an application. Figure 43 shows all the statistics of the previous elements.

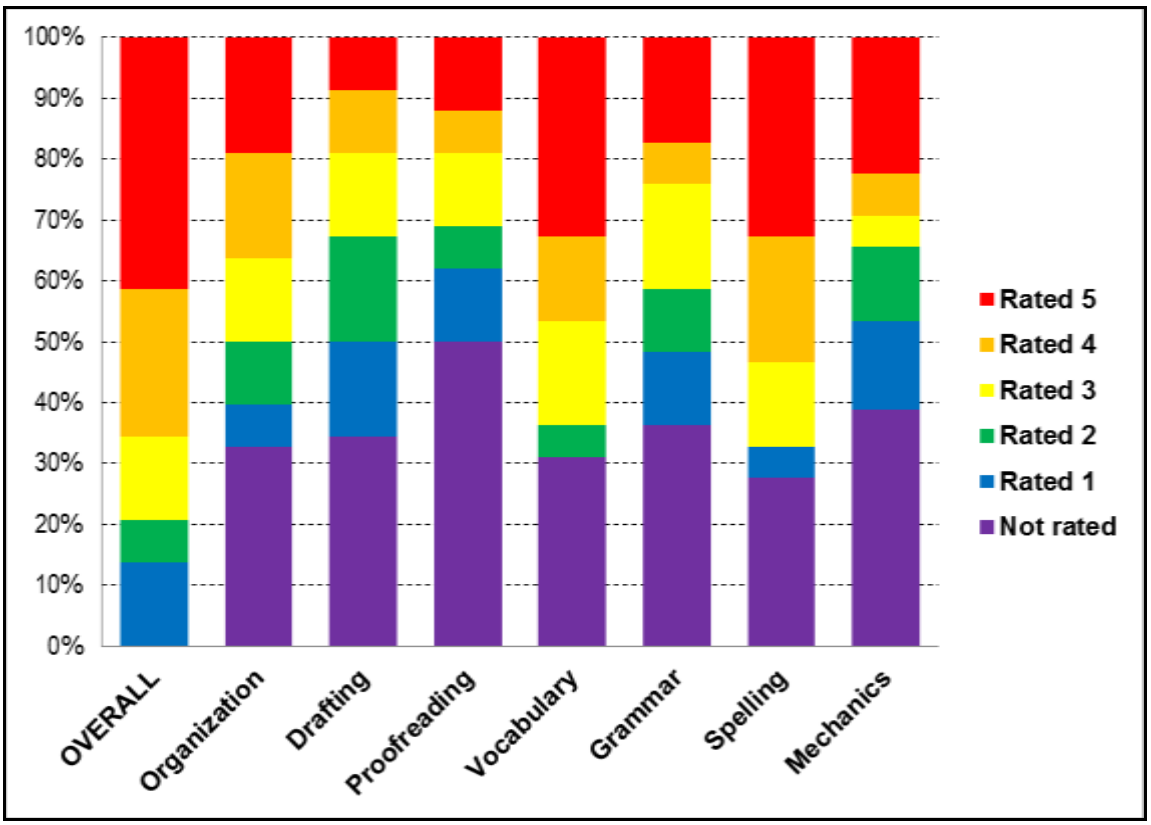


Figure 43: Utility of the Software in Writing According to Students

Question 14: Which other sections of the dictionary did you use?

Sections	Frequently	Occasionally	Rarely	Never
DICTIONARY & CULTURE	37 [63.8%]	/	/	21 [36.2%]
MY TOPICS	4	8	6	40 [69%]
ACTIVITIES	9	12	3	34 [58.6%]
RESOURCES	1	6	4	47 [81%]
GENIE	5	6	2	45 [77.6%]

Table 46: Students' Answers to the 14th Question

This question investigated students' use of other sections of the OALD other than iWriter. Many students (63.8%) pointed out to the DICTIONARY & CULTURE section of the software; consulting the dictionary in the course of writing was indeed an advantage to improve the quality of their essays. Chon (2008, p. 49) obtained a different result in his paper entitled: *The Electronic Dictionary for Writing: A Solution or a Problem?*

> Writers did not exploit every opportunity to use the dictionary, and reverted to other solutions, maybe so as not to break their thread of thought during their writing processes or due to lack of confidence in further use of the dictionary.

As for MY TOPICS section which lists useful vocabulary under many headings, the majority of subjects (≈70%) seemed uninterested in this particular section; this proportion had never consulted the section. We think this was related to time constraints. It took precious minutes of students' time inside the language laboratory to use this section especially for slow students. The same thing applied to the RESOURCES section which was never consulted by 81% of students.

Though ACTIVITIES tab did not have a close relation to the task of writing, 58.6% of students reported they had never come across this part. Moreover, there was no time for activities inside the laboratory as students' focus was mainly on writing essays.

As for the OALD Genie, only a fifth (⅕) of the subjects appreciated the usefulness of Genie by using it either frequently or occasionally (especially when reviewing an essay saved to Microsoft Word document). The majority (77%) of students did need to use Genie. Figure 44 shows students' use of the dictionary's sections other than Oxford iWriter.

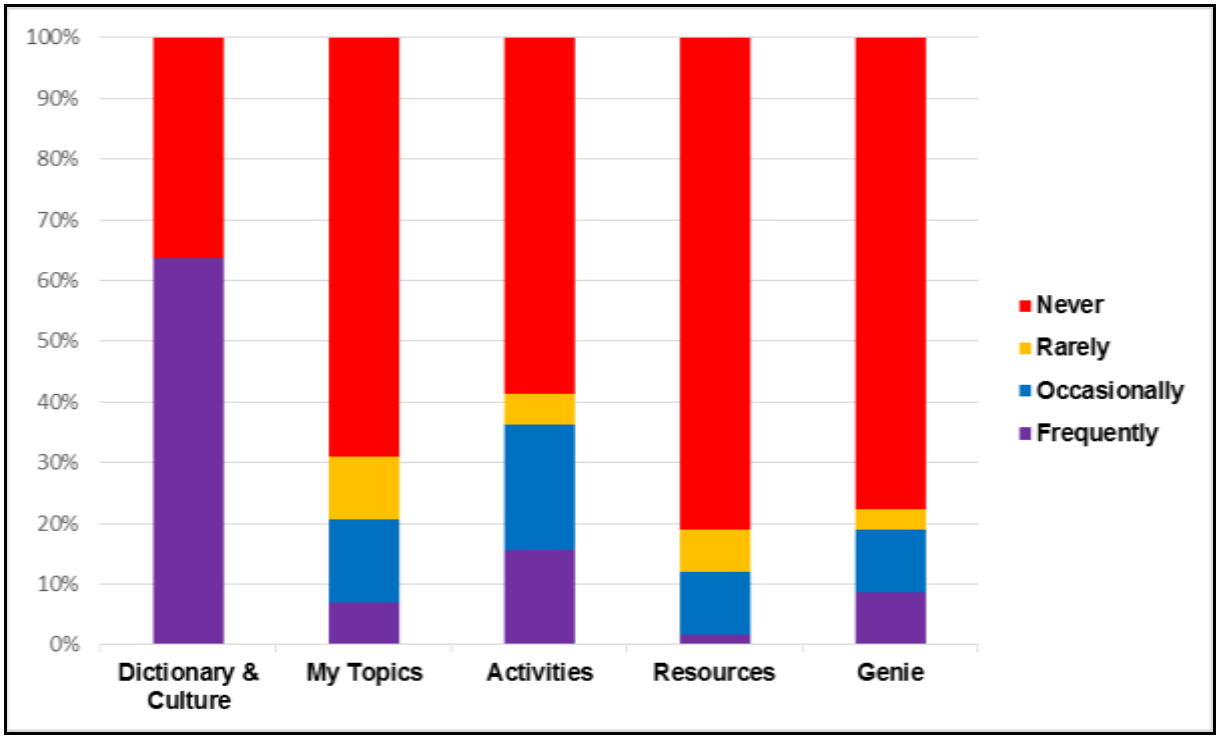


Figure 44: Subjects' Use of Sections Other than iWriter

On the whole, students used mainly two sections of the dictionary: Dictionary & Culture and iWriter.

Question 15: Did you find peer-editing using Microsoft Word helpful?

PEER-EDITING	**YES**	**NO**	**SOMEHOW**
Number of Students	38	8	12
PERCENTAGE	65.5%	13.8%	20.7%

Table 47: Students' Answers to the Question about Usefulness of Peer-Editing

Reviewing and exchanging essays between student writers can yield significant results though we cannot expect full coverage of all the flaws. Responses to this particular question showed that a preponderance of students (nearly two thirds ⅔) found this type of feedback provided by their peers quite beneficial. The majority of students realised that seeing others' mistakes would alarm on their own mistakes.

Question 16: Did you benefit from collaboration with your classmates in the language laboratory?

COOPERATION	**YES**	**NO**	**SOMEHOW**
Number of Students	42	4	12
PERCENTAGE	72.4%	6.9%	20.7%

Table 48: Students' Answers to the Question about Cooperation in the Language Lab

We asked this question to confirm our insight about students' cooperation. Inside the language laboratory, we noticed that students were quite helpful to each other. They provided advice on both writing processes and tips on using the dictionary on computer. This was confirmed by 72.4% of students who claimed they have benefited from such cooperation. This can be due partly to the small size of each of the sub-groups (only 24 students).

Question 17: What can you say about practising writing with the help of Oxford iWriter?

The answers varied a lot. While some students gave good reviews, others criticized or had some misgivings about the application; statistically, the proportions were 87.9%, 3.4%, and 8.6% respectively (see Table 49).

Students' Feedback	**POSITIVE**	**NEGATIVE**	**WITH RESERVATIONS**
Number of Students	51	2	5
PERCENTAGE	87.9%	3.4%	8.6%

Table 49: Students' Answers to the Question about their Feedback on the Interactive Writer

These are some quotations from students who had a **POSITIVE** impression about the application:

- "It is helpful especially in dictionary & culture. It helps the student to know the meaning of new words and to check other synonyms to avoid the repetition," said A. A.

- ". . . we learned how to be more ready to type on a computer. And push me to ask my friends and they also ask me about new words, and how to enter to this computer. Really it is very beneficial," said Asma B.

- "The iWriter is really a good software because when typing an essay you have generally the dictionary at disposal to use it at ease. Also the iWriter had greately [*sic*] improved my vocabulary because of the dictionary of course . . ." said Abir B .

- "It is so interesting and valueable [*sic*] because, it helps us to improve our level in written expression and how organize [*sic*] our essays," said A. G.

- “Practising writing with the help of iWriter is so good and I find it benificial [*sic*] and wonderful. I like it,” said A. R.

- “. . . I think I develope [*sic*] my writing skill, and I used it to avoid spelling mistakes,” said A. S.

- “iWriter application helped me the most in enriching my vocabulary . . .” said A. Z.

- “the important thing is a new way of writing, because I some how [*sic*] started hating the traditional way (pencil & paper) . . .” said D. B.

- “. . . I think that it is a useful & effective method that teacher [*sic*] should show it to students to practise very well,” said Dj. M.

- “. . . with the help of iWriter I find my self [*sic*] better than writing on paper,” said H. A.

- “. . . when I use the computer, I can concentrate most of the time with [*sic*] my essay. Also it helps me to do all the steps of writing, while when I use the paper & the pen I escape sometimes some steps,” said I. A.

- “In my opinion the iWriter is very useful and important for us as students because it helps us to learn much vocabulary,” said I. K.

- “It is really interesting and benificial [*sic*] in the diffrent [*sic*] skills: writing, speaking … also, learn new vocabulary, new cultures, the origin of the words, etc.” said L. A.

- “. . . it helps students to develop their skills in all levels [*sic*]: vocabulary, spelling, pronunciation, etc.” said R. Z.

- “It helps me to discover my mistakes and improve my writing skill,” said M. B.

- “. . . it help us to organize our work,” said M. T.

- “I can say that even I cannot use the computer, I feel that when I practise to write an essay with help of the iWriter has many advantages to ameliorate my level . . .” said N. A.

- “. . . for those have the opportunity to practice it at home, it’s really usefull and benifitial [*sic*],” said N. B.

- “. . . we can find dictionary and many types of essays and also we can find models of essays and there is also Activities,” said O. B.

- “. . . It helps me to make my writing better than before,” said S. B.

- “. . . Thanks to this section I learnt how to use a computer and type in it,” said S. B.

- “. . . I feel that I can learn both thing [*sic*] in the same time: to practise in computer and also practise in the argumentative essay,” said S. K.

- “. . . I correct my spelling mistake between the time and the other and rich [*sic*] my vocabulary for each time I research a word,” said W. B.

- “I find the iWriter very useful, specially [*sic*] for spelling and organisation . . .” said Y. M.

In what follows, we give some quotations from students who pointed out some **LIMITATIONS**:

- “Practising writing with the help of iWriter is somewhat good to an extent of not using it every time, but from time to time,” said A. D.

- “. . . it helps us . . . check our words before using them in the essay whether they’re right or wrong. The only matter is that I cannot concentrate much enough rather than writing on the paper because it’s my habit grasping ideas and fresh them on the paper,” said B. R.

- “I benifit [*sic*] some how [*sic*] from iWriter, I learnt new words with new vocabulary,” said H. Z.

- ". . . we learn how to write in an organised one but still writing on paper is better," said L. S.

- "It is good but I feel not good when I write in computer because I don't practise it," said M. R.

- "It is really good thing especially when you are familiar with computers, but I think that when someone who is not familiar with computers and electronic dictionary, he cannot use it," said N. B.

- "It is nice to have an aid in order to write a hole [*sic*] essay but sometimes even if I check the word from the dictionary I will face against difficulties . . . it happened to me many times I check the word many times and I may make a mistacke [*sic*]," said N. M.

These are some quotations from other students who had **NEGATIVE** impression about the application:

- "I understand that some are excited about the iWriter, but unfortunately I have not been so. iWriter is somehow helpful but it is the dictionary that I found beneficial," said W. B.

- ". . . I do not prefer this way because when write [*sic*] on the computer I loose [*sic*] all my ideas, so it confuses me very much," F. M.

- "It was a failed experience [*sic*] for me, just because I do not practice much," said N. B.

- "I prefer to write my essay on a paper, because I find myself more relaxe [*sic*] and free," said S. A.

The criticism made by students, however, does not mean the application was not beneficial at all. Using iWriter to write essays is certainly worth the time and effort.

IV.3. Effectiveness of the Oxford iWriter on Students' Essays

In the course of our experiment with the software inside the language laboratory, we learnt a lot about students' attitudes towards using technology to help develop their language skills. While some students were fascinated and motivated by using such an application both at home and classroom, some other students were rather reluctant and anxious while composing on computers. They did not find composing an essay on a computer a pleasurable experience because they lacked the necessary keyboarding skills; they found that rather time-consuming and disruptive to their line of thoughts. This kind of students can be described as *technophobes* for they definitely prefer the conventional way of writing.

In this sense, Matsumura & Hann (2004, p. 405) found the following:

> [I]t is possible that students who are low in computer anxiety feel more comfortable and able to accomplish a given task than their high-anxiety peers, whereas students high in computer anxiety are more likely to worry and fail at tasks than their low-anxiety peers.

Indeed, the same finding was reported by Powers, Fowles, Farnum, and Ramsey (1994, p. 231) in their article entitled *Will They Think Less of My Handwritten Essay If Others Word Process Theirs? Effects on Essay Scores of Intermingling Handwritten and Word-Processed Essays.* The researchers found that student writers "who are able to word process their essays should feel free to do so, for the possibility exists that, with the skillful use of the word processor as a writing tool, they may produce higher quality essays."

As for collaboration between students, we noticed that students interacted with each other in the language laboratory more than they did inside the conventional classroom.

In Table 50, we evaluate the usefulness of the application in the light of data analysis.

Essay Features	Effectiveness of Oxford iWriter	Explanation
Content	Not sufficiently effective	Students generate their own ideas. The dictionary helps by listing many entries related to Anglo-Saxon culture. Getting good ideas does not depend on using computers.
Organisation	Partially effective	The tool does suggest frameworks for students as well as checklists.
Grammar	Not sufficiently effective	Grammar needs separate courses and a lot of practice. The dictionary provides only some aspects of grammar, e.g. verb forms and some grammar points.
Vocabulary	Effective	The software has a number of useful features, including an integrated thesaurus, visual illustrations, synonyms, collocations, examples, example bank, and MY TOPICS section.
Spelling	Effective	This common problem among students was reduced; students could check easily the spelling at any time during the writing process. This would help them remember the spellings.
Mechanics	Not sufficiently effective	Capitalization and punctuation need separate courses.
Legibility	Highly effective	Typing on computers makes final products neat and legible.

Table 50: Usefulness of the Oxford iWriter

IV.4. Limitations and Disruptions

There were some disruptions that occurred in the course of the research; these interruptions were temporary and did not impede the investigation. In what follows, we summarise them in the following points:

- The big number of students in the experimental group compared to the limited workstations in the language lab posed some problems. The research method involved the comparison between the performance of students of both groups, so it was not possible to exclude some students to make things more feasible;
- There was no room to have the whole experimental group in one session because of the limited capacity of the lab (24 workstations only). Thus, the treatment group was divided into subgroups.
- There were always absentees in our sessions; in the experimental group, there were at least 6 students who never attended a single session in the laboratory;
- The teaching experience of the researcher was limited;
- The typing speed of some students was slow; this caused them to spend a lot of time to write their essays. Added to this, the lack of computer basic skills of some students. Still, the subjects were given enough time to finish their essays;
- Students' typing speed improved with time.
- The laboratory was not fully available; at least two sessions were cancelled because of the heavy schedule of the room;
- Sometimes, access to the language laboratory was restricted by the administration on the pretext of protecting the expensive equipment and because some students were irresponsible;
- Students occasionally forgot to save their projects; consequently their essays were lost forever;

- The spring semester devoted to the investigation was interrupted – unexpectedly – by a two-week strike by students of the university, which was followed by the spring holidays. This consisted a break in the process of writing for a whole month;

- Only occasionally, there was power cut in the language laboratory even though there were UPSs (Uninterruptible Power Suppliers);

IV.5. Concluding Remarks

The following remarks summarise the above findings:

- On computers, students tended to write longer essays; they seemed to enjoy the on-screen task more than the conventional way of writing. Hyland (2003, p. 172) found that "in many circumstances, computer-based instruction presents stimulating alternatives to traditional paper materials and tasks."

- Generally, organising essays with the help of the Oxford iWriter was better compared to essays written in longhand. This was confirmed by the results obtained through the questionnaire.

- The short period of the experiment resulted in a limited use of the application by the students (once per week during one semester only).

- One of the benefits of this software is acquiring vocabulary either incidentally or intentionally.

- The practice of looking up and learning new vocabulary is seemingly more effective when using an electronic dictionary rather than using a print dictionary. This could extend the range of the vocabulary used in the course of encoding activities.

- Not using a word does not necessarily mean the learner does not know it; the learner may acquire a word but s/he could not recall it to be used in his/her text.

- The screen recorder Snagit revealed better understanding of students' performances while composing on computers; such information is not possible in conventional classrooms.

- In the experimental group, not all students used the dictionary to look up words; some of them were just typing their essays into iWriter. This was concluded from observing the screenshots recorded by Snagit.

- While typing, some students found it overwhelming to check hundreds of words in order to avoid spelling mistakes; basic knowledge of words' spellings is necessary.

- Sometimes computers can distract students' attention. We understand that PCs are not made just for educational purposes; they are also made for entertainment.

- The familiarity with the topic has an impact on the ideas generated and vocabulary used. A low performance by a student writer in a given topic could change once the topic changes:

> There are many factors besides vocabulary size that could affect lexical richness in writing. These could include familiarity with the topic, skill in writing, and communicative purpose. This means, for example, that a change of topic could result in a marked change in lexical richness. (Laufer & Nation, 1995, p. 308)

- An advantage of iWriter for writing teachers is the possibility of retrieving students' essays at every stage of the writing process and then saving them separately for future comparison of the overall progress.

- We have to admit that argumentative type of writing is not easy for students for it is too demanding; it requires logical thinking, logical organisation of ideas, using convincing reasons, along with considering the opponents' points of views.

- We noticed, after close examination of essays, that persuasive type of writing is problematic for students of both groups. The student writers had difficulties especially in understanding and writing refutation to opposing arguments. The cause may have a relation with social and cultural considerations.

- Some students put papers in front of their monitors in order to draft before they start typing. When asked, they replied that they felt *safer* and relaxed doing so and that this way was better than drafting on computers. They feared ideas would escape as they did not type quickly. Once they finished drafting the essay on paper, they started typing it into iWriter.

- Students who could have the CD-ROM at home would benefit a lot from the application.

- We wish to stress that the Oxford iWriter is very easy to use for both teachers and learners.

Conclusion

Using the Oxford iWriter to help students improve their written products yielded some positive results as far as some aspects of writing are concerned. Through the experiment, we gained better understanding of the students' attitudes towards integrating technology into the educational environment. We did learn that students are eager to use technology in writing classrooms.

Chapter Five:
Issues Related to ICT Integration in Algeria

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CHAPTER FIVE

ISSUES RELATED TO ICT INTEGRATION IN ALGERIA

Introduction

After analysing the data obtained from the experiment, we learned that supporting L2 writing with ICT is liable to yield satisfactory results in terms of quantity and quality of the written products of the subjects. In this chapter, we focus on the Algerian setting and the potential for integrating ICT in Algerian universities. Nevertheless, there are a number of constraints; the level of computer literacy of both teachers and learners is an issue.

V.1. The Issue of Computer Literacy (Computacy)

In the field of second and foreign language teaching, the call for integrating computer technology into the learning process is based on its overwhelming advantages. Yet, the lack of basic computer literacy among learners as well as teachers can impose constraints. Warschauer (2002, p. 455) gave four kinds of literacy under what he calls *electronic literacy* that should be part of the knowledge of teachers wanting to use ICT effectively in their teaching:

- **Computer Literacy**: This refers to the easiness and comfort in keyboarding and using computers;
- **Information Literacy**: It is the ability to find and critically evaluate online information;
- **Multimedia Literacy**: It is the ability to produce and interpret complex documents comprising texts, images, and sounds;
- **Computer-mediated Communication Literacy**: It refers to the knowledge of the pragmatics of individual and group online interaction.

Whether all Algerian learners and teachers have all these kinds of literacies that enable them to use ICT effectively is questionable; the results show that unfamiliarity with ICT renders computers useless in writing classrooms.

A main difficulty in Algeria is that accessing computers is very limited in primary, middle, and secondary schools; many Algerian students enter universities less familiar with computers and the Internet than they should be. Indeed, according to the *Global Information Technology Report* of 2014 (issued by the World Economic Forum), the 'Internet access in schools' indicator ranks Algeria 138th out of 148 countries in the world (see section IV. 5 below).

Interestingly, the present generation thinks that modern technology 'belongs' to them more than the older generations – that of their parents or even their teachers. This, in part, is based on the fact the new generation of learners is thought to be "computer savvy" (Hyland, 2003, p. 148). Suffice it to say that many children outperform their parents when it comes to using hi-tech devices.

Moreover, the new concept of literacy has a close connection with the knowledge of using modern technologies. A definition of illiteracy suggested the following: "There are three kinds of illiterate people: the one who does not know how to read or write, the one who does not know how to use the computer, and the one who does not know English." (Cox & Assis-Peterson, 1999, p. 442)

V.2. Teachers' Computer Literacy

The role of teachers in a successful integration of ICTs into education is prominent. To find out about their computer literacy, we administered a questionnaire to 42 teachers from a number of Algerian universities; we wanted to have a clear idea about their beliefs about technology use in their classrooms.

The questionnaire is composed of 15 questions (see Appendix G). They are about teachers' computer literacy and their readiness to cope with ICT use. The questionnaire was administered online, i.e. we created the questionnaire through a service from Google – Google Forms – then we sent a link to a number of university teachers by email. After filling in the questionnaire online, the results were saved automatically by the website.

Overall, there were 42 university teachers (males and females) in different grades from 8 different higher institutions in the country: 20 from Constantine, 11 from Jijel, 3 from Mila, 2 from Bejaia, 2 from Guelma, 2 form M'sila, 1 from Sidi Bel-Abbes, and 1 from the Teacher Training College of Constantine (l'École Normale Supérieure de Constantine). The questionnaire was administered in May 2013.

Question 1: On years of experience at the university.

The teaching experience varied among university teachers; there were 7 teachers with experience exceeding 30 years as there were 13 who have taught for only 5 years or less. Table 51 summarises the teachers' answers:

Teaching Experience	**Number of Teachers**	**PERCENTAGE**
30 years and beyond	7	16.7%
Between 20 years and 30 years	7	16.7%
From 10 years to 20 years	7	16.7%
Between 5 years and 10 years	8	19%
$\leq$ 5 years	13	31%
TOTAL	42	100%

Table 51: Teachers' Answers to the Question about Teaching Experience

The aggregate number of years of experience of all teachers was more than 590 years, averaging 14 years per teacher.

Question 2: In general, are you interested in technology?

Interest in Technology	**YES**	**NO**	**INDIFFERENT**
Number of Teachers	37	3	2
PERCENTAGE	88.1%	7.1%	4.8%

Table 52: Teachers' Answers to the Question about Interest in Technology

The majority of teachers replied yes (88.1%). Only three teachers said they were not interested in technology and two reported they felt indifferent. We wonder whether there were some teachers who would feel embarrassed and rather out-dated if they said NO, and probably some of them chose to say YES just to save their faces.

Questions 3: In general, how can you describe your computer literacy level?

Level of Computer Literacy	**Low**	**Moderate**	**Advanced**	**Other**
Number of Teachers	4	22	15	1
PERCENTAGE	9.5%	52.4%	35.7%	2.4%

Table 53: Teachers' Answers to the Question about Computer Literacy

Half of the teachers claimed they have a moderate level, 35.7% answered that they have an advanced level, while 9.5% considered their level low. Interestingly, one teacher described himself/herself as computer geek. These results suggest that the absolute majority of teachers are more or less computer literate.

Question 4: On having hi-tech devices such as computers, smartphones, and tablets

Hi-tech Devices	**Desktop Computers**	**Laptops**	**Smartphones**	**Tablets**
Number of Teachers	35	36	12	8
PERCENTAGE	83.3%	85.7%	28.6%	19%

Table 54: Teachers' Answers to the Question about Ownership of Some Hi-tech Devices

Here the answers varied depending on the device. The absolute majority of teachers owned either a desktop computer or a laptop. As for smartphones, about a third of teachers (⅓) had a smartphone. As for tablets, about a fifth of them (⅕) owned a tablet.

Question 5: On having email accounts or accounts on social networking sites

By asking this particular question, we wanted to know whether the hi-tech devices are really used by teachers.

Accounts	**Email**	**Facebook**	**Twitter**	**YouTube**
Number of Teachers	40	25	8	11
PERCENTAGE	95.2%	≈60%	19%	26.2%

Table 55: Teachers' Answers to the Question about Emails and Social Networking Sites

As for email accounts, all teachers reported they had emails except two. As for social networking websites, we gave them the choice of keeping the answer a private matter (PREFER NOT TO SAY). Almost 60% of teachers reported they had Facebook pages, which suggests a positive indication of their computer literacy. Two teachers preferred not to reply, though.

Twitter seems to be less popular among teachers; about a fifth (⅕) only had accounts. As for YouTube, it is almost the same thing with Twitter; only 26.2% had channels on the famous website.

Question 6: On having blogs, wiki pages or personal websites

Online Spaces	**Personal Websites**	**Blogs**	**Wiki Pages**
Number of Teachers	4	5	1
PERCENTAGE	≈10%	≈12%	2.4%

Table 56: Teachers' Answers to the Question about Blogs, Wikis, and Websites

Here the majority (about 90%) did not have any personal websites; almost the same percentage applies to blogs. As for wiki pages, only 1 teacher reported s/he had one.

Question 7: On reasons for not having blogs, wiki pages or personal websites

We provided some suggestions for teachers; the suggestions were as follows: busy/overworked; problem of know-how; uninteresting; or lack of adequate facilities. There were seven teachers who did not reply to this question at all (those who had online spaces). The reasons varied among teachers; almost 60% reported they were too busy and 30% referred to the problem of know-how. There were five teachers (≈12%) who assessed these technologies as uninteresting, with one teacher describing them as "risky and easy to tamper with (weak point of technology)."

Question 8: Do you like teaching with the help of ICT?

Preference for Technology	**YES**	**NO**	**INDIFFERENT**
Number of Teachers	35	1	5
PERCENTAGE	83.3%	2.4%	≈12%

Table 57: Teachers' Answers to the Question about Preference for Technology

The majority of teachers (more than 80%) were eager to use ICT in teaching; however, 12% said they were indifferent. One teacher did not like ICT and one reported that adequate facilities were not fully available in his/her university.

Question 9: What kind of technology do you usually use with your students?

Educational Technology	**None**	**Data Projector**	**Language Laboratory**
Number of Teachers	12	19	16
PERCENTAGE	28.6%	45.2%	38.1%

Table 58: Teachers' Answers to the Question about Technology Use

The results show that 28.6% of teachers did not make use of any kind of technology. The rest of the teachers used one kind or more of educational technology: 45.2% of them used an overhead projector, about 40% used a language laboratory, and some teachers used both. Some other teachers utilized other kinds of technology, such as CD/DVD players, emailing, e-portfolios, Skype, Google groups, and social media sites. One teacher who did not use any kind of educational technology made the following comment:

"I like using it but I can't use it in a more practical way because of the nature of the module (STUDY SKILLS) which focuses on learners and the extent they practice their studying skills more than presenting a lecture through an OHP."

Question 10: How do you gauge your students' reaction to technology use in the classroom?

Students' Attitudes	**Positive**	**Negative**	**Indifferent**	**I DON'T KNOW**
Number of Teachers	28	/	3	11
PERCENTAGE	66.7%	/	7.1%	26.2%

Table 59: Teachers' Answers to the Question about Students' Attitudes

Two-thirds (⅔) of teachers reported that their students enjoy ICT usage inside classrooms; one teacher stated, "students even wait impatiently my lectures." Only 7.1% of teachers reported that students were indifferent to technology use. The answers show clearly that students do enjoy learning when associated with technology.

Question 11: Do you want to be trained to use ICT in education?

Training	**YES**	**NO**	**INDIFFERENT**
Number of Teachers	31	6	4
PERCENTAGE	73.8%	14.3%	≈10%

Table 60: Teachers' Answers to the Question about Training

The majority of teachers (about three quarters ¾) gave their approval to receive training in using educational technology, 14.3% objected to being trained, and 10% said that they were indifferent.

One teacher replied *Not Applicable*, probably because s/he was very qualified to use ICT. Overall, there was a positive trend among teachers to receive adequate training in using educational technologies.

Question 12: Do you feel embarrassed to ask for help/advice in ICT?

Embarrassment	**YES**	**NO**	**SOMEHOW**
Number of Teachers	2	37	3
PERCENTAGE	4.8%	88.1%	7.1%

Table 61: Teachers' Answers to the Question about Embarrassment

The absolute majority of teachers (88.1%) do not feel embarrassed at all about asking for help, and almost 12% feel either embarrassed or at least somehow embarrassed when asking for help/advice.

Question 13: What do you think about the integration of ICT into the Algerian education system?

ICT	**Strongly Disagree**	**Disagree**	**Indifferent**	**Agree**	**Strongly Agree**
Number of Teachers	/	/	6	9	27
PERCENTAGE	/	/	14.3%	21.4%	64.3%

Table 62: Teachers' Answers to the Question about ICT Integration

The absolute majority (85.7%) either strongly agree or just agree; only 14.3% of teachers felt indifferent.

Question 14: Do you think that ICT use can make a difference in EFL teaching/learning in Algeria?

ICT in ELT	YES	NO	NOT NECESSARILY	I DON'T KNOW
Number of Teachers	36	/	4	2
PERCENTAGE	≈86%	/	≈10%	≈5%

Table 63: Teachers' Answers to the Question about ICT Impact in ELT

Most of the teachers (≈86%) believed that the impact of educational technology on learners is considerable, and about 10% of them thought that ICT do not necessarily impact ELT in a positive way. One teacher made the following comment, "Yes, if we teach computing literacy and make it feasible (number of students per group, materials, etc.)"

Question 15: Teachers' Free Comments

Here, many teachers wrote interesting comments. In language teaching, teachers' beliefs are very important; they are thoughts "derived from their experience, observations, training and other sources and serve as a source of reference when teachers encounter new ideas, sometimes impeding the acceptance of new ideas or practices." (Richards & Schmidt, 2010, p. 586)

Some teachers seemed very enthusiastic about ICT at university, though they admitted there are some obstacles. The number between brackets refers to the years of experience.

In what follows, the comments are **POSITIVE**:

- I personally think that ICT will help both students and teachers. I consider that it really contributes to gain time and saves energy. [30 years]
- Nothing can be more helpful with overcrowded classes than ICT. [29 years]

- ICT is a sign of advance; it implies that the user of ICT is up to date in terms of knowledge and information in the domain of communication. [27 years]
- ICTs are necessary in language teaching or learning because they will help improve both qualities of teaching and learning. [10 years]
- ICT & effective TEFL to meet the requirements of globalization & quality teaching [8 years]
- I guess that to succeed in teaching a foreign language, teachers need to highly integrate ICT. Nowadays' teaching implies applying the use of technological devices so as to stimulate learners' interest and motivation. [2 years]
- Using ICT motivates the learners especially in oral expression and provides them with social-like situations that help develop their skills. [2 years]

It seems that the majority of teachers appreciate the role of ICTs in ELT and that they have positive views about their utility. However, some other teachers had a number of **RESERVATIONS** as regards the use of ICT in Algerian universities:

> ICT is a must for EFL students but its extent highly depends on seriousness and engagement of university staff as a whole – all university components should be implicated in order to have very positive results. Unfortunately, we are still far from the adequate use of ICTs at the university level mainly because of administrative hindrances and teachers' reluctance, neglect, ignorance ... [28 years]

> As a university teacher, I believe that the integration and use of ICT have become a must in higher education. The majority of EFL teachers are very motivated to teach by means of these new technologies. However, the lack of training and absence of financial means made [it] very difficult for teachers to cope with these instructional means in the teaching process. [24 years]

> We are still unable to apply this in our classes. I personally tried to get students in the Google group discussion but this has actually failed. Although the system requires ICT integration politically and theoretically speaking but nothing is possible in our reality. [10 years]

- It's great to integrate ICT in EFL and ELT but the problem rests on the know-how to manage this with gigantic groups [7 years]
- ICT integration in EFL teaching/learning will be more effective if teachers and students are sufficiently trained to deal with it. [3 years]

The following comments reflect **NEGATIVE** teachers' beliefs about ICT:

- It would be interesting to use ICT in education, but I don't think it will be possible in Algeria (at least in the present time and near future). [9 years]
- The idea is realistic, necessary but not possible for the time being in our Algerian university. [8 years]
- For me, ICT is not that essential, but I think it can be a plus. [5 years]
- I don't have enough knowledge about any potential influence of ICT on EFL students. [5 years]

All in all, we stress that if teachers are unaware of the potential benefits of educational technology, they are likely to overlook its importance in teaching. In this respect, McDonough, Shaw, & Masuhara. (2013, p. 103–4) found the following:

> Understanding the attributes of available tools is one part of our decision-making. We have also emphasized how **decisions to use technology** will be filtered by various **factors**, not least your own **beliefs** about teaching and learning language, your **confidence** in using specific tools, your **understanding** of learner needs. [emphasis added]

V.3. Constraints to Student Writers

We come to understand that the effective use of computers in writing classrooms depends on computer literacy of both teachers and learners. In addition to computacy, some other difficulties might arise when students practise writing on computers. As far as Algeria is concerned, student writers might face the following constraints:

V.3.1. Low Level of English Proficiency

To have an idea about English language proficiency of Algerians, we referred to the 2015 **English Proficiency Index** which is published by Education First – an international education company that focuses on language, academics, and cultural experience. The index measures English ability by testing hundreds of thousands of adults around the world.

According to the index, Algeria ranked 60th out of 70 countries: "The Middle East and North Africa have the lowest levels of English proficiency in the world" (p. 46).

> Algeria's English proficiency is very low and, overall, declining. Adults in the country have some of the weakest English skills surveyed. While English is primarily a language for business and science in Algeria, it is not widely used beyond these fields. (p. 52)

V.3.2. Lack of Anglophone Online Spaces

Algerian students when encouraged to compose and post their written products online could face the difficulty of finding appropriate online Anglophone spaces that offer no cultural barriers in anyway. By a simple search over the Internet, we come to realize the lack of online spaces where students can find country-related content in English.

The same thing applies to social networking websites. Facebook pages that are devoted to Anglophones, for example, tend to be informal and not educative, and people contributing to them do not necessarily share the same interests as students.

Our students might feel kind of *outsiders* when contributing articles to foreign websites designed for specific nationals because they "need to understand expectations and norms of [those] discourse communities" (McDonough, Shaw, & Masuhara, 2013, p. 197). Failing to do so could result in their contributions being evaluated as inappropriate or even rejected by members of these communities.

As for periodicals, there are hardly any general-interest magazines published in English language, with the exception of a number of articles in English in some academic journals published by some Algerian universities. This situation does not motivate Algerian learners to write and publish online quite frequently. This problem can be solved by creating websites for Algerian students that are supervised by teachers.

V.3.3. Formality in Written English

Another issue is that student writers might not take the task of composing in English seriously and tend to write informally, neglecting the rules and conventions that characterize the academic writing. If we take online forums of discussion, for example, what matters more to users is to communicate their ideas whatever the kind of language one uses. In addition to that, some members might write derogatory comments under aliases or pseudonyms when contributing to discussions.

In recent years and because of the addiction to social networking websites, English language users become used to a type of short-form writing which is different from the standards of academic writing.

Interestingly, this type of writing (such as LOL for *Laugh Out Loud* and OMG for *Oh! My God!*) could become the norm among students in few years (Takayoshi, 2015).

We understand that social networking websites are not necessarily designed for learning purposes; they just facilitate the communication between people worldwide. Yet, this does not mean that there are no online spaces for students to write in formal English; Wikipedia (one of the best-known wikis) can be a good example here where English for Academic Purposes (EAP) is used to write its articles.

V.3.4. Plagiarism

Another issue is the easiness of online plagiarism which is due to the easiness of searching for information, copying, and pasting it on computers. "Although there is no evidence that web-derived plagiarism is any more widespread than other kinds . . . instructors are understandably concerned about the ease with which students can plagiarize, either intentionally or not" (Gerrard, 2012, p. 426). Moreover, plagiarists can even copy texts written in their mother tongue then translate into English using automatic online translation.

By claiming others' works as theirs and relying on translation, student writers could never improve their writing skill.

V.3.5. Readers' Feedback

"Writers typically intend their texts to be read, and in the classroom feedback from [teachers and peers] provides opportunities for them to see how others respond to their work and to learn from these responses." (Hyland, 2003, p. 177) When students post their written contributions online, there is no guarantee that they will get helpful feedback from internet users or at least it won't be useful all the time.

Moreover, teachers' task of providing their students with feedback will be overwhelming if they surf each student's blog, for instance, and read all his/her posts.

A suggested solution here is to create a blog for student writers, and then teachers can read and comment on some selected works. Alternatively, the website of the university – if any – can serve as a space where students can contribute essays, interact, and get feedback in an organized way.

V.3.6. Distraction and Inappropriate Content

Once online, students can be distracted by the entertaining aspect of computers; we did observe this behaviour in students when teaching in the language laboratory. Likewise, surfing inappropriate websites on the Internet can be potentially harmful (see Figure 45).

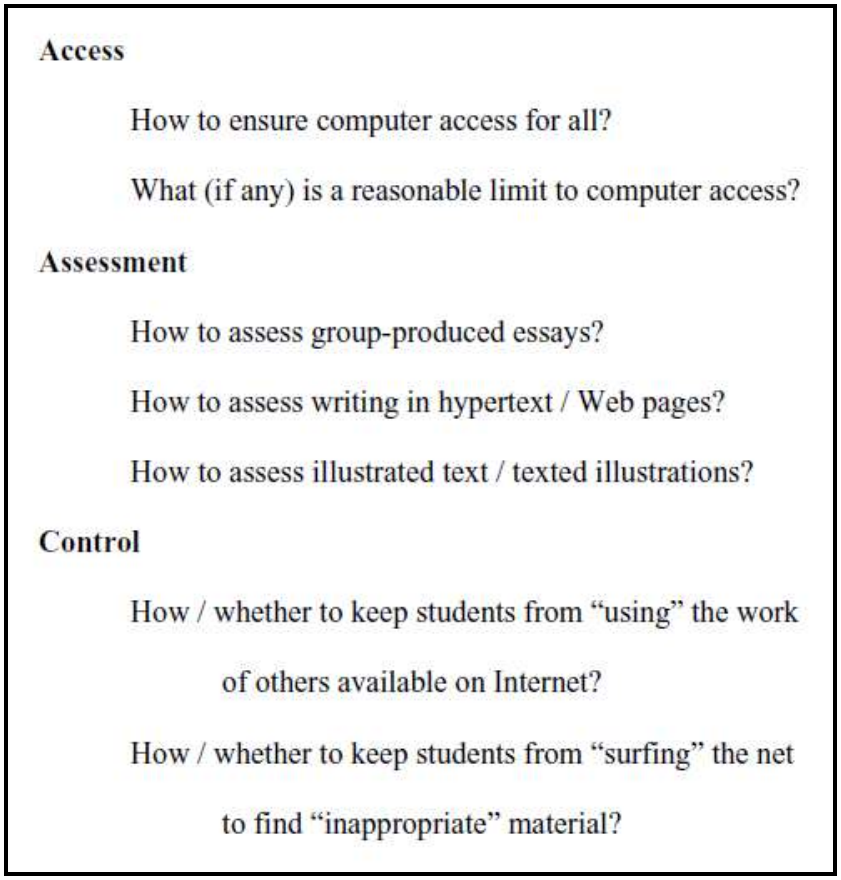

Figure 45: Issues of Literacy on Computer, adapted from Pennington (2003, p. 306)

Another issue is that some students tend to spend plenty of time on social media sites. Facebook, for instance, does distract users with loads of *stuff* from friends and acquaintances from all over the world. The serious task of composing academic writings on Facebook would seem less interesting compared to the appealing aspect of hanging about with *virtual* friends; some students might prefer to have chit-chat with friends rather than learning.

Moreover, using these particular sites as a tool to improve the skill of writing has always been questionable (Takayoshi, 2015).

V.3.7. Lack of Incitement by the Existing Curriculum

Being a student myself then a teaching assistant at the same department at Constantine University, we have come to realise that the existing written expression curriculum does not teach writing as it should be. It offers very limited opportunities for students to compose in English; students are not required to write more than twice a week, and the formal assessment of their writing skill is only twice a year.

The official syllabus[1] (see Table 64) does not teach students how to compose and publish online; it does not even refer to the many types of writings done exclusively online nowadays such as blogging and emailing.

Indeed, without a suitable syllabus, ICT cannot help a lot for "[t]he tools of technology . . . provide the most beneficial results when integrated into a strong curriculum and when clearly matched to instructional purposes." (Ware & Warschauer, 2006, p. 113)

[1] Projet de cursus de licence en langues étrangères (a syllabus that was suggested by the Ministry of Higher Education in March 2004)

YEARS OF STUDY	SYLLABUS CONTENT
1ST YEAR	▪ Accent mis sur les textes modernes et contemporains (compréhension) ▪ Texte comme support : grammaire et techniques de l'écriture ▪ Apprentissage des techniques de l'écrit, soit l'étude des différents types de textes mis à la portée des étudiants, comme par exemple : le narratif descriptif, argumentatif, prescriptif
2ND & 3RD YEARS	▪ Les différentes étapes : du paragraphe à l'essai. ▪ Identifier les différents types d'expression écrite et les structures sous-jacentes au texte.

Table 64: Content of the Writing Course Syllabus

Likewise, essay topics in exams do not necessarily relate to students' daily lives. Egbert (2005, p. 17) explained, "Like the saying goes, you can lead a horse to water, but you can't make it drink. You can't force curriculum to relate to a learner's life, but you can use the learner's life to reinforce curriculum."

This situation caused a number of students to lack the capacity to write in plain English even at advanced levels in their academic career; Labed (2007, p. 271) reported the same finding. The approach adopted by teachers of writing at the department of letters and English language is not clear-cut most of the time; it is rather a mixture of the process and product approaches. Also, the final outcome of writing instruction is not precisely defined and students are not intended to be prepared for the workplace requirements – which are too demanding – after graduation.

V.3.8. Software Limitations

Computers do not interact like human beings; after all, they are just pre-programmed machines. Human teachers, on the contrary, understand the learners' needs and can provide limitless alternatives for a successful instruction.

Here, we refer to the famous chess match between the former World Chess Champion Garry Kasparov and an IBM computer called *Deep Blue* back in 1996. Though Deep Blue could explore up to 100 million possible chess positions per second, yet, Kasparov defeated the computer, won the game, and protected the human dignity against the machine.

V.3.9. Students' Commitment

Finally, when it comes to students' commitment, a number of questions are worth asking:

- To what extent can we convince students to write and interact online?
- How do we guarantee that student writers have the facilities and literacies needed for an effective use of educational technology?
- How do we restrict them to use the academic language if they are to improve their English?
- How do we protect students from the bad side of technology?

It seems that the answers to these questions are not typically favourable. After all, "not all students work best with a computer screen." (Egbert, 2005, p. 16)

V.4. e-Algeria 2013 Strategy

In an attempt from the Algerian government to keep pace with the challenges of globalization, a pioneering initiative was launched to help integrate ICTs into many areas of Algerians' daily lives: *e-Algeria 2013*.

Adopted in 2009, the strategy aimed at making ICT available and used by the majority of Algerian citizens in the near term. The initiative included the following 13 goals:

STRATÉGIE e-ALGÉRIE 2013 : AXES MAJEURS	**e-ALGERIA 2013 STRATEGY: MAJOR GOALS**[1]
A. Accélération de l'usage des TIC dans l'administration	▪ Intensifying ICT use at the level of administration
B. Accélération de l'usage des TIC dans les enterprises	▪ Intensifying ICT use at the level of companies
C. Développement des mécanismes et des mesures incitatives permettant l'accès des citoyens aux équipements et aux réseaux des TIC.	▪ Elaborating mechanisms and taking incentive measures that permit citizens to access ICT equipment and networks
D. Impulsion du développement de l'économie numérique	▪ Giving impetus to the development of digital economy
E. Renforcement de l'infrastructure des télécommunications à haut et très haut debit	▪ Reinforcing high speed telecommunication infrastructure
F. Développement des compétences humaines	▪ Developing human skills
G. Renforcement de la recherche-développement et de l'innovation	▪ Reinforcing Research & Development as well as innovation
H. Mise à niveau du cadre juridique national	▪ Updating the national judicial regulations
I. Élaboration et mise en œuvre d'un plan de communication sur la société de l'information en Algérie	▪ Development and implementation of a communication plan in the information society in Algeria
J. Valorisation de la coopération international	▪ Promoting international cooperation
K. Mécanismes d'évaluation et de suivi	▪ Elaborating assessment and follow up mechanisms
L. Mesures organisationnelles	▪ Taking organizational measures
M. Moyens financiers et planification	▪ Providing financial means and appropriate planning

Table 65: Major Goals of the e-Algeria 2013 Strategy

[1] Translated from French into English by the author.

Although the project is ambitious, there are some recommendations that cannot be put into action because they depend on other factors. The initiative, now reaching its final year, is being undertaken very slowly.

V.5. ICT in Algeria: The Status Quo

In order to get an idea about technology use in Algeria in a very competitive world, we referred to statistics published in the *Global Information Technology Report* (GITR) and the *Global Competitiveness Report* (GCR), which are two yearly publications issued by the World Economic Forum.

The data used in both reports is collected from over 100 countries around the world and is obtained from two sources:

1. **RENOWNED INTERNATIONAL INSTITUTIONS** such as the International Monetary Fund (IMF), the World Bank, the UNESCO, the International Telecommunication Union (ITU), the World Trade Organization (WTO) as well as reliable national sources from each country.[1]

2. **THE EXECUTIVE OPINION SURVEY**: This survey is administered annually to business leaders in all economies included in the report. It asks each one of them to rate one particular indicator related to his/her country on an ascending scale of 1 to 7. The total number of respondents is over 15,000 worldwide.

[1] For Algeria, the partner institute is the Centre of Research in Applied Economics for Development: Le Centre de Recherche en Économie Appliquée pour le Développement (CREAD)

V.5.1. Algeria's Global Information Technology Report 2014

This report assesses ICT usage by countries around the world and its impacts on their economic growth and competitiveness; it has been published since 2002. The report is based on the computation of an index – composed of 54 variables – called the *Networked Readiness Index* (NRI). The 2014 edition of the report (in more than 350 pages) gave comprehensive overview about ICT in 148 countries in the world.

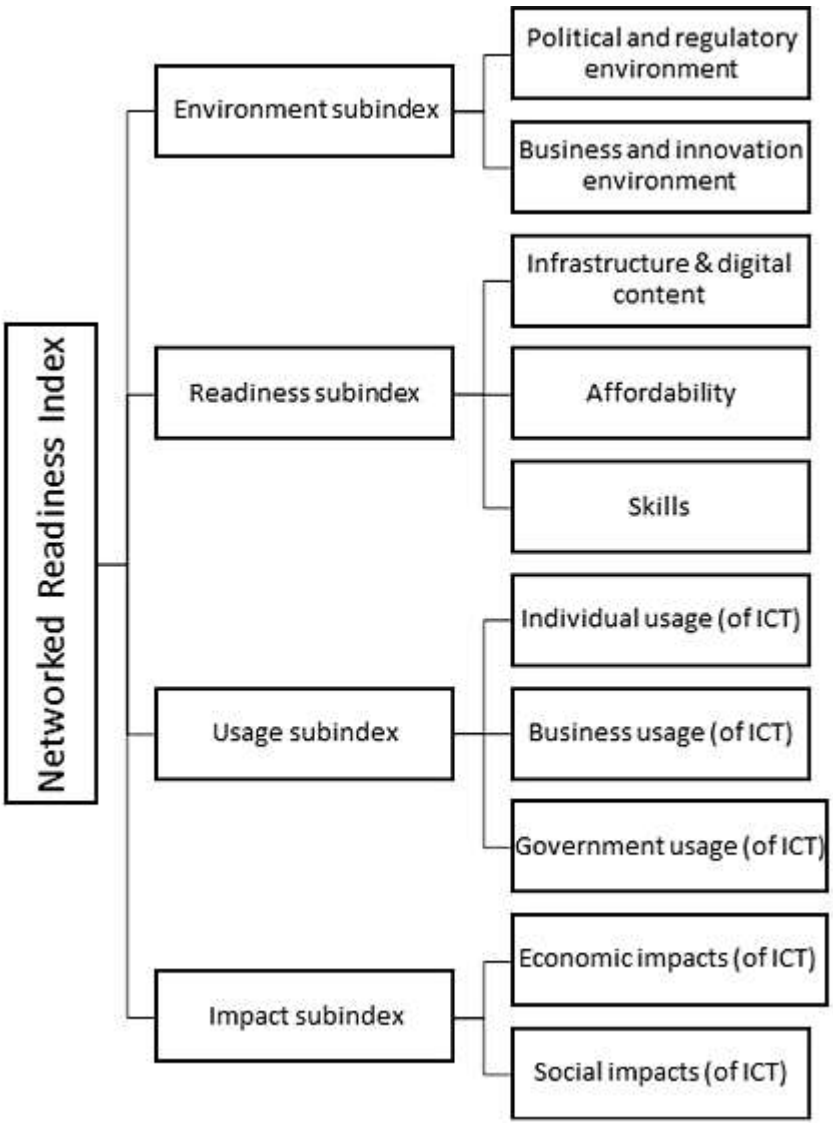

Figure 46: Structure of the Networked Readiness Index (adapted from the GITR 2014, p. 7)

The Networked Readiness Index (NRI) is measured based on 54 indicators; for each indicator, countries are scored and then ranked from the 1st to the 148th position. These indicators are grouped under 10 pillars and 4 sub-indexes; "The final NRI score is a simple average of the four composing sub-index scores, while each sub-index's score is a simple average of those of the composing pillars." (The GITR, 2014, p. 6). Figure 46 shows the structure of the Networked Readiness Index.

As far as this research work is concerned, we want to position Algeria vis-à-vis the other nations using this index. In the following discussion, we will consider only 5 out of the 54 indicators because they are closely related to the scope of this research; these indicators are as follows (see Appendix H):

- Availability of latest technologies #2.01

- Quality of the Educational System #5.01

- Internet users #6.02

- Households with a personal computer #6.03

- Households with Internet access #6.04

- Internet access in schools #10.02

V.5.1.1. Overall Ranking

According to the Global Information Technology Report of 2014, the overall NRI score of Algeria was **3** out of 7 and thus was ranked **129th** out of 148 countries. For a country that ranked 50th in the world for Gross Domestic Product (GDP = $206.1 US billion in 2013)[1], Algeria is below the acceptable standards:

[1] Well ahead of Qatar, Kuwait, and Morocco!

> After a sharp drop in the past edition, Algeria manages to move up two positions to reach 129th place. With very poor general conditions for business and innovation development (145th), a poorly developed ICT infrastructure (127th), and very low ICT penetration across all stakeholders, it is not surprising that the country does not achieve higher economic (133rd) and social (140th) impacts. (The GITR, 2014, p. 30)

V.5.1.2. Availability of Latest Technologies

The score of this indicator is derived from the survey administered to leading business executives by asking the following question:

- To what extent are the latest technologies available in the country?

[1 = not available; 7 = widely available]

The sample mean regarding this particular indicator was 4.9 out of 7 worldwide, yet Algeria scored only 3.2 ranking 144th out of 148 countries just before Burkina Faso, Chad, and Myanmar.

This particular result is questionable as it reflects only the viewpoint of the respondents to the survey; however, we understand that the latest technologies are not supposed only to be available in the capital of the country and cosmopolitan cities.

V.5.1.3. Quality of the Educational System

To find out about this element of competitiveness between countries of the world, the survey asked the following question:

- How well does the educational system in the country meet the needs of a competitive economy?

[1 = not well at all; 7 = extremely well]

The value obtained was 2.7 out of 7 while the arithmetic mean worldwide was 3.7. Accordingly, Algeria ranked 133rd out of 148 countries. It is assumed by the survey that the 'inadequately educated workforce' is one of the main reasons that pose challenges for doing business in Algeria. Therefore, our educational system needs to be improved to have a skilled workforce that can participate actively in the development and prosperity of the country.

V.5.1.4. Internet Users

This particular indicator is about the percentage of population who use the Internet actively. According to the report, a mere 15.2% of the population (estimated at 37.9 million in 2013) use the Internet. This ranked the country 113th worldwide.

Compared to Canada that has roughly the same population (35.1 million), Algeria is below the standards for 86.8% of Canadians use the Internet. Likewise, Morocco ranked ahead of our country because 55% of Moroccans (32.9 million) use the Internet.

By the end of 2015, the number of Internet users worldwide will reach 3.2 billion people; this number will represent ≈40% of the world's population, with two-thirds (⅔) of the users residing in developing countries.[1]

V.5.1.5. Households with a Personal Computer

This particular indicator gives the percentage of households equipped with a desktop or laptop. In this regard, Algeria had only 24.2% of households with PCs and thus ranked 90th out of 148.

[1] **Source**: International Telecommunication Union. (2015). *ICT Facts & Figures*. Retrieved from <http://www.itu.int/en/ITU-D/Statistics/Documents/facts/ICTFactsFigures2015.pdf>

V.5.1.6. Households with Internet Access

This indicator gives the percentage of households that have access to the World Wide Web. Algeria ranked 91st out of 148 because there are only 19.4% of households having a connection to the Internet at home.

V.5.1.7. Internet Access in Schools

Internet usage by pupils and students is an indicator of their computer literacy; relying on the Internet in education can yield very positive results. To compute the ratio, the data was obtained from the survey that asked the following question:

- In the country, how widespread is Internet access in schools?

[1 = non-existent; 7 = extremely widespread]

The score obtained was 2.2 out of 7 ranking Algeria 138th worldwide. Compared to the international sample mean which was 4.2, Internet access is still limited at the level of Algerian schools. Pupils and students are deprived of using such an indispensable tool to support their learning.

In summary, the previous rankings do not give advantage to Algeria as a country that uses ICT to the benefit of its people.

V.5.2. The Global Competitiveness Report 2014–2015

We live in a highly competitive world; nations compete to defend their economic independence and prosperity because not competing leads to being dominated by others' products and ideas.

The Global Competitiveness Index (GCI) is an index that measures the effectiveness of economies of countries and their attraction for substantial investments; it attributes a score between 1 and 7 on which world economies are ranked.

The index is calculated and published annually by the World Economic Forum in the Global Competitiveness Report (GCR) that "provides a useful portrait of a nation's economic environment and its ability to achieve sustained levels of prosperity and growth." (The GCR 2012–2013, p. 69)

Introduced in 2005, the GCI gives a broad view about the economy of each country. The index is calculated based on the following 12 criteria (or pillars) of competitiveness:

1. Institutions (public & private)

2. Infrastructure (transport; electricity & telephony)

3. Macroeconomic environment

4. Health and primary education

5. Higher education and training

6. Goods market efficiency

7. Labor market efficiency

8. Financial market development

9. Technological readiness

10. Market size

11. Business sophistication

12. Innovation

Each pillar is composed in turn of a number of indicators; there are 114 indicators under the previous 12 pillars and for each indicator countries are evaluated and then ranked (see Figure 47).

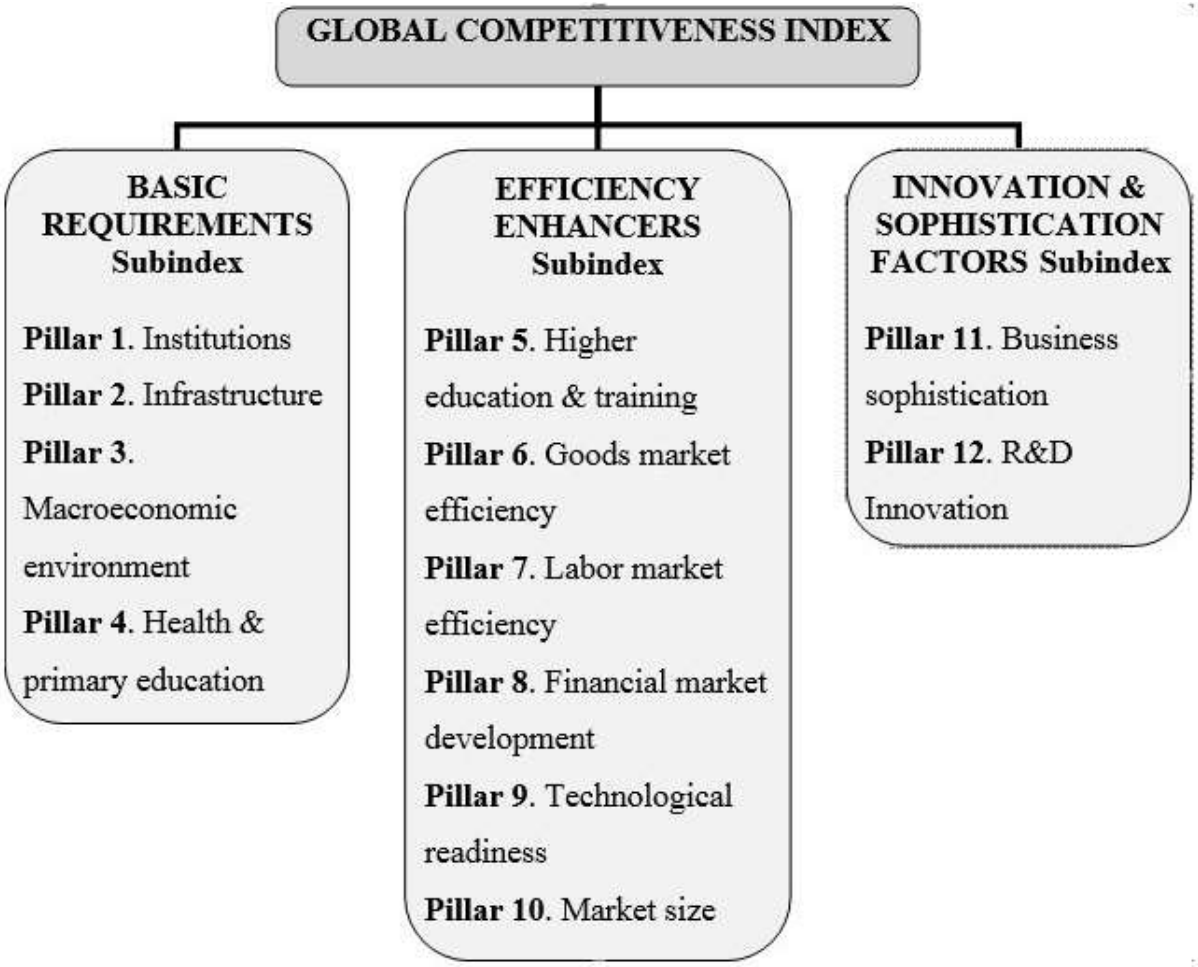

Figure 47: The Framework of the GCI (adapted from the GCR 2014–2015, p. 9)

According to the report (p. 4), competitiveness is defined as follows:

the set of institutions, policies, and factors that determine the level of productivity of a country. The level of productivity, in turn, sets the level of prosperity that can be reached by an economy. The productivity level also determines the rates of return obtained by investments in an economy, which in turn are the fundamental drivers of its growth rates. In other words, a more competitive economy is one that is likely to grow faster over time.

As far as this research work is concerned, we refer only to some indicators of the 5th and 9th pillars: Higher Education and Technological Readiness respectively (see Appendix I).

V.5.2.1. Overall Ranking

According to the Global Competitiveness Report 2014–2015, the overall GCI score of Algeria was **4.1** out of 7 ranking the country **79th** from 144 nations included in the report.

Unlike other economies belonging to the same stage of development[1] such as Egypt, Iran, Kuwait, Qatar, and Saudi Arabia, Algeria is below the standards even though the Gross Domestic Product (GDP) ranks the country 50th in the world.

V.5.2.2. Higher Education and Training

According to the same report, training and higher education are key factors in many respects:

> Quality higher education and training are crucial for economies that want to move up the value chain beyond simple production processes and products. In particular, today's globalizing economy requires countries to nurture pools of well-educated workers who are able to perform complex tasks and adapt rapidly to their changing environment and the evolving needs of the production system. (p. 7)

The Higher Education and Training pillar is defined as follows:

> This pillar measures secondary and tertiary enrollment rates as well as the quality of education as evaluated by business leaders. The extent of staff training is also taken into consideration because of the importance of vocational and continuous on-the-job training – which is neglected in many economies – for ensuring a constant upgrading of workers' skills. (ibid.)

[1] The three main stages of development are identified as follows: factor-driven, efficiency-driven, and innovation-driven stages. Algeria is in a *transition* stage between stage 1 and stage 2.

As far as this particular pillar is concerned, Algeria ranked **98th out of 144** worldwide. This position reflects verily the many problems we encounter in our educational system.

V.5.2.3. Technological Readiness

This criterion measures the country's technological readiness by reference to its people's adoption of technology as well as their use of ICT. According to the report:

> Technology is increasingly essential for firms to compete and prosper. [This] pillar measures the agility with which an economy adopts existing technologies to enhance the productivity of its industries, with specific emphasis on its capacity to fully leverage information and communication technologies (ICTs) in daily activities and production processes for increased efficiency and enabling innovation for competitiveness . . . ICT access and usage are key enablers of countries' overall technological readiness. (pp. 7–8)

The overall rank of Algeria was **129** out of 144, a position putting the country nearly at the bottom of the list.

In summary, the statistics provided in both reports gave a gloomy picture about ICT usage and integration in Algeria. These results are reflected in the international rankings of Algerian universities.

V.6. Rankings of Algerian Universities

Comparing universities is of major importance for academics, university leaders, governments as well as students to ensure their future career success. Over the past decade or so, these rankings have stimulated fierce competition between renowned universities as to which will achieve the top ranks.

Actually, there are many university rankings and each one is based on a number of criteria to be considered for assessment. As far as this research is concerned, we want to compare Algerian universities to international ones as regards the criterion of using and integrating ICT into higher education. We referred to three of the most acknowledged rankings: Webometrics ranking, the Times rankings, and Shanghai University rankings.

V.6.1. Webometrics Ranking of World Universities

According to its website <webometrics.info>, Webometrics is the largest academic ranking of higher education institutions. Founded in 2004, it provides "reliable, multidimensional, updated and useful information about the performance of universities from all over the world based on their web presence and impact." The Webometrics Ranking is produced by the Cybermetrics Lab, which is a unit of the Spanish National Research Council.

As its name indicates, the ranking depends on the scientific activity of universities that could be consulted and tracked on the web. The final score of each institution is based on four criteria: impact (50%), presence (20%), openness (15%), and excellence (15%).

IMPACT [**50%**]: This criterion is about the quality of online content, which is evaluated through counting all the external links that the university main web domain receives from third parties. Those links testify to the prestige of the institution, the academic performance, the value of the information, and the usefulness of the services as introduced in the web pages.

PRESENCE [**20%**]: It measures the total number of web pages that are indexed by the search engine Google. It counts every web page (both static and dynamic) including all the formats recognized individually by Google.

OPENNESS [**15%**]: This indicator takes into account the number of rich files (Adobe Acrobat documents, Word documents, PowerPoint presentations, etc.) published in dedicated websites according to the academic search engine ***Google Scholar***. The indicator considers only publications that were published recently.

EXCELLENCE [**15%**]: The academic papers published in international journals with a high impact factor play a very important role in the ranking of universities. Using simply the total number of papers could be misleading, so the indicator is only restricted to those excellent publications, i.e. the university scientific output being part of the 10% most cited papers in their respective scientific fields.

As of July 2015, the Algerian university that ranked first was Houari Boumediene University of Science & Technology (USTHB), ranking 1781st out of some 25,000 institutions worldwide, followed by Sidi-bel-Abbes University (world rank: 1859), University of Constantine (world rank: 2307), then Tlemcen University (world rank: 2436).

In the light of statistics provided by the Global Information Technology Report of 2014, these rankings mean that Algerian universities are still far from an effective use of technology. Table 66 shows the world rankings of the first 20 Algerian universities.

RANK in Algeria	WORLD RANK	UNIVERSITY
1	1781	Houari Boumediene University of Science and Technology
2	1859	Djillali Liabes University. Sidi-Bel-Abbes
3	2307	University of Constantine
4	2436	Abu-Bakr Belkaid University. Tlemcen
5	2443	Kasdi Merbah University. Ouargla
6	2816	Abdelhamid ibn Badis University. Mostaganem
7	2961	Ferhat Abbas University. Setif
8	2969	University of Bejaia
9	3006	Mohamed Khider University. Biskra
10	3191	University of Batna
11	3277	Mouloud Mammeri University. Tizi Ouzou
12	3367	Mohamed Boudiaf University of Science and Technology. Oran
13	3381	École Nationale Polytechnique. Algiers
14	3732	Badji Mokhtar University. Annaba
15	4093	Saad Dahlab University. Blida
16	4186	University of Jijel
17	4641	University of Skikda
18	4711	M'Hamed Bougara University. Boumerdes
19	4749	University of Oran
20	5088	University of Guelma

Table 66: Webometrics Ranking of the First 20 Algerian Universities

One of the drawbacks of Webometrics ranking is that it changes the methodology of calculating the four indicators continuously. Therefore, the year-on-year comparisons do not indicate the improvement or drop in the ratings objectively.

V.6.2. Times Higher Education World University Rankings

According to the website <timeshighereducation.com>, the Times Higher Education World University Rankings are "the only global university performance tables to judge research-led universities across all their core missions – teaching, research, knowledge transfer, and international outlook."

The methodology offers a year-on-year comparison based on true performance rather than methodological change. There are 13 separate indicators that are grouped under five areas; each indicator represents a percentage of the overall score:

- **Teaching (the learning environment) [30%]:** This indicator counts the doctorates awarded, among other things.
- **Research [30%]:** This indicator counts the number of papers published in academic journals indexed by Elsevier's SCOPUS database per scholar, among other things.
- **Citations [30%]:** This indicator calculates the number of times a research work is cited by scholars worldwide.
- **International Outlook [7.5%]:** This indicator is about ratios of international staff and students to their domestic counterparts.
- **Industry income [2.5%]:** It is about research income earned from industry.

As of 2015, there are no Algerian universities included in the T.H.E. World University Rankings. We just note that the best-ranked Arab university was King AbdulAziz University (Saudi Arabia). Table 67 shows the 14 Arab universities covered in the rankings:

#	RANK	ARAB UNIVERSITIES
1	251-300	King Abdulaziz University. Saudi Arabia
2	501-600	American University of Beirut. Lebanon
3	501-600	King Fahd University of Petroleum and Minerals. Saudi Arabia
4	501-600	King Saud University. Saudi Arabia
5	501-600	United Arab Emirates University. UAE
6	601-800	Qatar University
7	601-800	Sultan Qaboos University. Oman
8	601-800	American University of Sharjah. UAE
9	601-800	Jordan University of Science and Technology
10	601-800	Suez Canal University. Egypt
11	601-800	Alexandria University. Egypt
12	601-800	Cairo University. Egypt
13	601-800	University of Jordan
14	601-800	University of Marrakech. Morocco

Table 67: Times Higher Education Arab University Rankings 2015–2016

V.6.3. Academic Ranking of World Universities

The Academic Ranking of World Universities was first published in 2003 by SHANGHAI JIAO TONG UNIVERSITY in China. According to the website <shanghairanking.com>, the classification uses six objective indicators to rank world universities:

- **Research output [40%]:** Number of papers published in *Nature* and *Science* magazines (20%), along with the number of articles indexed in Science Citation Index and Social Sciences Citation Index (20%).
- **Quality of Education [10%]:** Number of alumni who earned Nobel Prizes or Fields Medals in mathematics.
- **Quality of faculty [40%]:** Number of staff who earned Nobel Prizes or Fields Medals in mathematics (20%), along with the number of highly cited researchers (20%).
- **Per Capita Performance [10%]:** per capita academic performance of a university

As of 2015, this particular ranking makes no mention of Algerian universities. We understand that the criteria are academically challenging for universities of developing countries. In addition, if we take into consideration the age of higher-education institutions in developing countries, and except for very few universities, no university has ever celebrated its centenary.

V.6.4. QS World University Rankings

It is an annual publication of university rankings by Quacquarelli Symonds (QS) – a British company specialising in education and study abroad. The rankings are based on six indicators:

- Academic reputation [40%]
- Employer reputation [10%]
- Student-to-faculty ratio [20%]
- Citations per faculty [20%]
- International faculty ratio & international student ratio [5% + 5%]

Once more, there is no single Algerian university featured in the QS rankings. It seems that international statistics assign unfavourable ratings for Algerian universities.

We think that this situation is due in large part to the limited use of ICT in tertiary education; in particular, we may think of a number of reasons:

- By surfing websites of some Algerian universities, we realised that they are not regularly updated and the information is not always available. For example, by visiting many websites of English departments, one cannot find even the name of the head of the department, let alone online scientific publications (by way of illustration, see <www.umc.edu.dz/faclel>)

- Students do not use their universities' websites effectively; add to this the lack of trained personnel to maintain these websites.

- Some teachers are not accustomed to using computers and the Internet effectively. Some of them cannot even perform very basic computer operations.

- Some administrative personnel do not care about promoting the integration of ICT into tertiary education, at least for the time being.

In the next section, we provide some suggestions for integrating and using ICT in educational environment.

V.7. Suggestions for Successful Integration of ICT

The following are some suggestions for a successful integration of ICT into tertiary education in Algeria:

- ICT skills are to be taught to pupils as early as primary schools;
- The existing curricula must be reviewed for they do not refer to training students in communicating electronically;
- There must be specialized postgraduate courses at the university about teaching English with technology;
- A number of teachers should be trained to be experts in ICT use to help their colleagues use educational technology in classrooms;
- Local educational software must be created and developed to serve local goals of education;
- Educators must create websites along with magazines dedicated to educational technology. By way of illustration, *Tech & Learning* is a specialist magazine which is concerned with educational technology and published monthly by NewBay Media in New York. It is available from <www.techlearning.com>

- We recommend opening a WRITING CENTRE in every department at the university to teach English writing to all university students no matter what their specialities are. These writing centres should be equipped with the latest technologies and should recruit qualified staff.

Having the knowledge of the English language in addition to ICT would open up new career opportunities for Algerian graduates. In this respect, a crucial question is worth asking:

Is there any need or benefit at all for Algerian students to write on computers instead of papers?

Definitely, the answer is YES. In a globalized world, we want Algerian students to join virtual international communities and to contribute to online content effectively. We want them to be able to discuss the current affairs of their society in English. For example, they may comment on an international sport competition like the World Cup, respond and express personal views about a piece of news read in an international newspaper website, or even write reviews about their favourite movies, books, apps or hotels.

Similarly, students would improve their writing skills when blogging about their points of views, writing articles on Wikipedia about topics they know, or doing their written assignments on computers instead of papers.

All in all, we want Algerian learners to enjoy English language learning through ICT; we want them to interact with each other and the world using plain English.

Conclusion

In this chapter, we tried to position Algeria as regards ICT usage through different reports and rankings: the World Global Information Technology report, the Global Competitiveness Report, and World rankings of universities. International statistics showed that Algeria is not in a favourable position regarding ICT usage. In this respect, e-Algeria 2013 initiative could make a difference in the near future.

We also raised some problems as regards ICT integration into higher education and focused especially on the issue of computer literacy. We found – through the teachers' questionnaire – that computer literacy among teachers is below the acceptable standards.

Finally, we tried to suggest some workable solutions to help teachers and learners make the most of ICT in education. As far as writing is concerned, blogs, wikis and the like are thought to bring about improvements to written products if used by trained students and teachers.

GENERAL CONCLUSION

Learning a foreign language might not be an easy task; it is a whole process that involves acquiring the receptive skills as well as the productive ones. As far as the writing skill is concerned, EFL/ESL teachers and learners face many problems. Though a number of pedagogical practices and techniques have been tried out, it seems that problems persist in students' writings.

What is suggested in this research is to take advantage of some user-friendly educational technology to help improve the written products of students. It is our belief that an effective use of ICT means would help the learners get better results with respect to their composition in English.

Hyland and Hyland (2006, p. xiii) found that "the field of second language writing instruction has changed its focus from skills to process and then to genre, and most recently to sociocultural considerations" with a strong impact from contemporary composing technologies.

According to Hyland (2003, p. 144), new technologies have had a great impact on writing; they have had a significant influence on the ways we write, the genres we create, the forms our finished products take, and the ways we interact with readers. Most significantly, new technologies have improved writing in many ways:

- They influence drafting, editing, proofreading, formatting, and publication processes;
- They facilitate the combination of written texts with visual and audio media;
- They encourage nonlinear writing and reading processes;
- They alter the relationships between writers and readers;
- They facilitate entry to new online discourse communities;
- They increase the marginalization of writers and texts isolated from new writing technologies.

This research has introduced simple and available ICT means that can be used by all teachers in the Algerian universities: the Oxford iWriter and Track Changes feature of Microsoft Word. Yet, teachers and learners should have a given level of computer literacy on which the decision of using ICT depends.

The Oxford iWriter (integrated with the *Oxford Advanced Learner's Dictionary* of 2010) provides EFL/ESL learners with practically everything they need in order to write in good English. Its utility comes from very useful features such as:

- guided advice;
- model writings of 14 different types;
- checklists to help remind the learners of basic points during the process of writing;
- outlines to help plan essays;
- handy dictionary with an integrated thesaurus;
- organised lists of vocabulary;
- and printable worksheets

In the empirical part of the study, the subjects of the treatment group experienced writing in an equipped language laboratory with the help of the interactive writer. Next, we compared their writings with those of students in the control group. The findings suggested that there were some differences between writings of the subjects in both groups. In the experimental group, these differences were manifested mainly in a wider and varied use of vocabulary that contributed to the complexity of their written products.

We think that using the application at home would bring about significant effects on the written products of students; in particular, this would enable the student writers to develop a sense of autonomy while they learn at their own pace.

Likewise, using a word processing program together with the Oxford iWriter is likely to be a good preparation for students to use other tools available on the World Wide Web such as blogs, wikis, emails, and the like.

We have also learned that many students are eager to use ICT tools in their classrooms. The questionnaire administered to the subjects confirmed this though there were some 'technophobes' among students who could not cope with technology for they lacked basic computer skills.

The following are some potential barriers that are likely to face any attempt to integrate ICT into Algerian universities:

- Computer literacy of students, which could result in anxiety.

- Computer literacy of teachers.

- Bureaucratic practices that limit the use of ICT equipment at the level of some universities.

- Lack of ICT experts: In language laboratories, for instance, teachers and learners remain stuck most of the time in case of technical problems.

- Poor maintenance of hardware and software equipment: In the event of any breakdown of ICT facilities, teachers and learners should wait for new material to be bought.

- Most of classrooms are overcrowded.

- Lack of local developers of software for educational purposes. Having local specialists is very beneficial because they are more aware of the Algerian setting. Products imported from abroad are not all the time suitable for the Algerian context, let alone being culturally safe.

- The existing curricula do not require any use of ICT. Thus, teachers do not bother to be trained for ICT integration.

- Students do not use ICT effectively in their learning because nothing attracts them to do so; absence of online libraries is an issue.

- Lack of satisfying bibliographic services at the level of Algerian universities, which means that doing academic research is slow and old-fashioned.

- Internet services in Algeria are below the international standards (according to the Global Competitiveness Report of 2014–2015, Algeria's technological readiness index ranks 129th worldwide out of 144 countries).

A criticism that could be made of this research is that the researcher may be too optimistic because not all those good ideas are necessarily applicable in Algerian universities. Moreover, the call for integrating ICT tools into education may face some practical problems, at the level of teachers, at the level of students, or at the level of hardware and software (cost and technical problems); "technology does mess up" (Egbert, 2005, p. 15).

Nevertheless, the present generation is thought to be computer savvy (Hyland, 2003). The problem does not lie in students all the time; we think that many teachers pose the real problem to a successful integration of ICTs into Algerian universities. Unless they are trained or replaced by less technophobe teachers, computer technology cannot help a lot even if it is available. This very research tries to change teachers' beliefs about ICTs role in education.

As for the financial costs, they do not pose a big problem mainly for two reasons: Algeria's high GDP and the prices of ICT equipment that are more and more affordable than they used to be a few years ago.

Furthermore, it is thought that if we could produce ICT materials locally, the prices will become much lower. Also, technology becomes cheaper when it develops. Amazingly, "[i]t is no secret that the average smartphone today has more computing power than NASA used when it landed an astronaut on the moon in 1969." (Technology Pioneers 2013, p. 6)

Likewise, many Internet websites provide free access to information for the benefit of users. Technology is now more and more affordable for people, and it is simple and user-friendly. Oxford iWriter is a good example here for it is very easy to use for both teachers and learners.

Using ICT is not a panacea for all pedagogical difficulties, though. Computer technology facilitates the learning process but, definitely, does not replace good teachers. The help and advice of teachers are and will be always acknowledged. The effective use of technological means by students and teachers renders learning and teaching fruitful and enjoyable. Egbert (2005, p. viii) stated, "It is not just the technology or the language that is important, but a whole learning environment system that teachers can create with their students."

The following are some **SUGGESTIONS** to help make the most of ICT in writing classrooms:

- Reviewing the existing curricula is necessary in order to cope with ICT requirements. With respect to the present curriculum of written expression, students learn nothing about writing done in online spaces though it is now a common practice among educated people.

- Training teachers to use ICT effectively does guarantee a smooth integration of technology into classrooms. We suggest training specialists in TEFL with the help of ICT as there are specialists in sociolinguistics and Anglo-Saxon civilisation.

- Students must acquire computer literacy at elementary, middle, and secondary levels of study before coming to the university. ICT effective use is considered a good skill for each university student.

- We suggest creating specialised research centres at universities that group researchers from different disciplines to create software specifically designed to help teach and learn English according to our national aims and priorities.

This research suggests using computer technology to improve the writing skill only. Further research is needed to investigate the possibility of improving other language skills using ICT. By way of illustration, in the 2015 edition of the OALD, there is another interactive application that is integrated in the DVD-ROM along with iWriter: It is the iSpeaker.

Similarly, research is to be done about designing local software to help Algerian learners acquire foreign languages based on their needs.

Limitations of the Study

Some limitations and inadequacies arose in the course of the investigation; we summarise them in the following points:

- Limitedness of the teaching experience of the researcher.
- The investigation concerned only the argumentative type of writing as part of the curriculum; we have to admit that the argumentative type of writing is not easy for student writers for it is too demanding; it requires logical thinking, persuasive language, and taking the opponents points of views into consideration.
- The big number of students in the treatment group posed some problems because of the limited capacity of the lab (24 workstations). Thus, the group was divided into subgroups.
- The laboratory was not fully available; at least two sessions were cancelled because of the heavy schedule of the room.
- Sometimes, access to the laboratory was restricted by the administration on the pretext that the equipment is expensive and that some students are irresponsible.
- Only occasionally, there was power cut in the language laboratory. Yet there there were UPSs (Uninterruptible Power Suppliers) connected to the system units.
- The spring semester period devoted to the investigation was interrupted, unpredictably, by a two-week strike by students of the university which was followed by spring holidays. This constituted a break in the process of writing for a whole month.
- Some students took a lot of time to finish their essays because of their slowness in typing information into computers (low keyboarding ability).
- Occasionally, some students forgot to save their projects, which caused their essays to be lost forever.

In spite of all these problems, the subjects were given enough time to finish their essays.

Strengths of the Research Work

We believe that the present research work has the following strengths:

- Novelty of the topic in Algerian universities: To the best of our knowledge, very few researchers tackled this very topic of using user-friendly computer technology in ELT. This research work, we think, opens up new horizons in ELT in Algeria: Why don't we think about developing local educational software that suits our learners' needs?
- The teachers' questionnaire was administered online using a service from Google (Google Forms). The service gathers the response and helps in analysing the data.
- Using international renowned reports as sources for data, namely the Global Information Technology Report 2014, the Global Competitiveness Report 2014–15, and the English Proficiency Index of 2015.
- Using four of the most trusted university rankings in the world to assess the position of Algerian universities compared to the world higher-education institutions.
- Using coloured snapshots for illustration.
- **SCREEN RECORDING**: We managed to record the on-screen activities of students of the experimental group using a screen capture utility[1] (a novelty in research tools).
- Using the 6th edition of the APA (American Psychological Association) style manual in the writing process of the present research work.

[1] cf. Crittercam of National Geographic

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APPENDICES

APPENDIX B

Peer Editing Worksheet

1. Analyze how the writer organizes his or her essay.
   a. Copy the thesis sentence here. Does it state the writer's opinion clearly?

   _____

   b. Does the essay use block or point-by-point organization?

   _____

2. List the writer's arguments:

   a. _____
   b. _____
   c. _____
   (Add more lines if necessary)

3. List the opposing arguments and counterarguments:

   a. _____
   Counterargument: _____
   b. _____
   Counterargument: _____
   c. _____
   Counterargument: _____

4. What is the writer's strongest and most convincing argument or counterargument?

   _____

   How does he or she support it? _____
   Is any argument or counterargument weak and unconvincing? ☐ **yes** ☐ **no**
   Why is it weak? _____
   Discuss with the writer possible ways to strengthen it.

5. Do you understand everything? ☐ **yes** ☐ **no**
   Circle or underline any part that you do not understand, and write a comment about it.

6. What kind of supporting details does the writer use (statistics, examples, quotations, paraphrases, summaries, etc.)?

   _____

7. How does the writer name the source of each piece of borrowed supporting information; that is, what phrases or verbs does the writer use to name the sources? Write them here.

   _____

8. Is this a convincing argumentative essay? In other words, does the writer persuade you that his or her opinion is the right one? ☐ **yes** ☐ **no**

Source: Oshima & Hogue (2006, p. 330)

APPENDIX C

STUDENTS' QUESTIONNAIRE

Please fill in this questionnaire by answering all the questions.

SECTION ONE: Computer Literacy

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1. Do you have a PC at home?

☐Yes ☐No

2. For how many years have you been using computers?

☐Less than 1 year

☐2–3 years

☐4–5 years

☐More than 5 years

3. Which operating system does your computer run?

☐Windows XP

☐Windows Vista

☐Windows 7

☐Other (e.g. Linux; OS X)

☐I do not know

4. Are you familiar with typing on computers?

☐ Yes

☐ Somehow

☐ Not at all

5. How can you describe your use of word-processing programs (e.g. Microsoft Word)?

☐Very good

☐Typical

☐Poor

☐I do not use it at all

6. Which language(s) do you often use to type on a computer?

……..……..

7. Do you have an email account?

☐Yes. For what purpose? ……

☐No. Why? ……..……

8. How often do you communicate in English over the Internet? (For example, email, chat, Facebook; Twitter; etc.)

☐Quite frequently

☐Frequently

☐Rarely

☐Never

9. In writing an essay,

☐I prefer writing it by using a pen and a paper

☐I like to type it on a computer

SECTION TWO: Composing with the help of iWriter

---

10. After experiencing writing essays with the help of the OALD on CD-ROM, do you feel that you have really improved your written products?

☐ Yes

☐ No, not at all

☐ To some extent

11. If you think Oxford iWriter is of no or limited utility, can you say why?

☐ The application is complicated. I could not manage to become familiar with it.

☐ I have poor typing skills and/or limited knowledge about computers. I cannot write effectively on a computer in the same way I write on a paper.

☐ I do not see any practical purpose in using such an application. Writing on a paper is much better.

☐ Other reasons: ……..……

12. Overall, did you find **Oxford iWriter** helpful, especially in regard to argumentative writing?

[Rate on a scale of 1 to 5; 1=limited usefulness, 5= very useful]

☐ Argumentative writing	1	2	3	4	5

13. In which parts of the writing process did you find **Oxford iWriter** useful?

☐ Organization	1	2	3	4	5
☐ Drafting	1	2	3	4	5
☐ Proofreading	1	2	3	4	5
☐ Vocabulary	1	2	3	4	5
☐ Grammar	1	2	3	4	5
☐ Spelling	1	2	3	4	5
☐ Mechanics	1	2	3	4	5

14. Which other sections of the dictionary did you use?

Dictionary & Culture	☐ Never	☐ Rarely	☐ Occasionally	☐ Frequently
My Topics	☐ Never	☐ Rarely	☐ Occasionally	☐ Frequently
Activities	☐ Never	☐ Rarely	☐ Occasionally	☐ Frequently
Resources	☐ Never	☐ Rarely	☐ Occasionally	☐ Frequently
Genie	☐ Never	☐ Rarely	☐ Occasionally	☐ Frequently

15. Did you find peer-editing using Microsoft Word helpful?

☐ Yes ☐ No ☐ To some extent

16. Did you benefit from collaboration with your classmates in the language laboratory?

☐ Yes ☐ No ☐ Not really

17. Finally, what can you say about practising writing with the help of Oxford iWriter?

……..……..……

……..……

……

APPENDIX G

TEACHERS' QUESTIONNAIRE

This questionnaire is part of an investigation about the readiness and willingness of Algerian EFL university teachers to integrate ICT (Information & Communications Technology) in their classrooms; the researcher wants to assess their 'electronic literacy' which refers to four types of literacy:

- **Computer literacy**: Comfort and fluency in keyboarding and using computers;
- **Information literacy**: The ability to find and critically evaluate online information;
- **Multimedia literacy**: The ability to produce and interpret complex documents comprising texts, images, and sounds; and
- **Computer-mediated communication literacy**: Knowledge of the pragmatics of individual and group online interaction. (cf. Warschauer, 2002, p. 455)[1]

---

1. Years of experience at the university. ……years

2. In general, are you interested in technology?

☐ Yes ☐ No ☐ Indifferent

3. In general, how can you describe your computer literacy level?

☐ Low ☐ Moderate ☐ Advanced ☐ Other……

4. Do you own a:

- Desktop computer? ☐Yes ☐No
- Laptop? ☐Yes ☐No
- Smartphone? ☐Yes ☐No
- Tablet? ☐Yes ☐No

5. Do you have:

- An email account? ☐Yes ☐No ☐Prefer not to say
- Facebook page? ☐Yes ☐No ☐Prefer not to say
- Twitter account? ☐Yes ☐No ☐Prefer not to say
- YouTube channel? ☐Yes ☐No ☐Prefer not to say

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[1] Warschauer, M. (2002). A developmental perspective on technology in language education. *TESOL Quarterly*, 36(3), pp. 453-475

6. Do you have a:

- Personal website? ☐Yes ☐No ☐Prefer not to say
- Blog? ☐Yes ☐No ☐Prefer not to say
- Wiki page? ☐Yes ☐No ☐Prefer not to say

7. If you don't have a personal blog/website on the Internet, why don't you create one?

☐Busy/overworked ☐Problem of know-how

☐Uninteresting ☐Lack of adequate facilities

☐Other ……

8. Do you like teaching with the help of ICT?

☐Yes ☐No ☐Indifferent

9. What kind of technology do you usually use with your students?

☐None ☐ Data projector

☐Language laboratory ☐ Email ☐Other ……

10. How do you gauge your students' reaction to technology use in the classroom?

☐Positive ☐Negative ☐Indifferent ☐I don't know

11. Do you want to be trained to use ICT in education?

☐Yes ☐No ☐Indifferent ☐n/a (not applicable)

12. Do you feel embarrassed to ask for help/advice in ICT?

☐Yes ☐No ☐Somehow ☐n/a (not applicable)

13. What do you think about the integration of ICT into the Algerian education system?

☐Strongly disagree ☐Disagree ☐Indifferent ☐Agree ☐Strongly agree

14. Do you think that ICT use can make a difference in EFL teaching/learning in Algeria?

☐Yes ☐No ☐Not necessarily ☐I don't know

15. Please feel free to make any comments:……

Thank you for taking the time to fill in this questionnaire; we appreciate your cooperation!☺

ملخص

تلعب تقنيات الإعلام والاتصال الحديثة دورا فعالا في دعم طرق تدريس وتعلّم اللغة الإنجليزية. تتناول هذه الدراسة جدوى تكنولوجيا الحاسوب في تجاوز بعض الصعوبات التي تعترض طلبة اللغة الإنجليزية في الجامعة أثناء التعبير الكتابي وهذا بالمقارنة مع الطريقة المألوفة في الإنشاء. إنها تبحث في مدى ملاءمة البرنامج المعلوماتي «أكسفورد أيراتر» Oxford iWriter كوسيلة تعليمية؛ هذا البرنامج التفاعلي يأتي ضمن القرص المضغوط المرافق لقاموس أكسفورد لسنة 2010، والذي صُمّم خصّيصا لمساعدة المتعلّمين في اكتساب مهارات التعبير الكتابي باللغة الإنجليزية. افترضنا أنه إن تمكّن الطلبة من استعمال البرنامج بطريقة صحيحة، فإنهم سيستطيعون تحسينَ مهاراتهم فيما يتعلق بالتعبير الكتابي بالإنجليزية. في هذا الشأن، أجريت تجرِبة في مخبر مجهّز لتعليم اللغات؛ إذ كُلّف فوجٌ من طلبة السنة الثالثة في قسم اللغة الإنجليزية بجامعة الإخوة منتوري قسنطينة بممارسة التعبير الكتابي فيه بالاستعانة ببرنامج Oxford iWriter وكذا القاموس المرافق. بعدها تم تقييم كتابات الطلبة ومقارنتُها مع كتابات زملائهم في فوج آخر لم يخضعوا للتجربة. أظهر تحليل النتائج أن البرنامج أفاد عددا من الطلبة وتمكّنوا فعلا من تجاوز بعض النقائص في كتاباتهم باللغة الإنجليزية. كما وُزّع استبيان على عينة الدراسة وكذا مجموعة من الأساتذة لمعرفة آرائهم وردودِ أفعالهم فيما يتعلّق بالاستعانة بالتكنولوجيا في تعليم اللغة الإنجليزية. مكّننا البحث من بلوغ نتائج هامّة ليس فقط فيما يخص جودةَ ما كتب الطلبة ولكن أيضا فيما يخصّ استخدامَ التكنولوجيات الحديثة في مجال التعليم والتعلّم. فظهر أن الطلبة لديهم الاستعداد والقابلية لهذا النوع من التطوير في وسائل التعليم، أما الأساتذة فإن بعضهم لا يزال يعاني من نقائص في التعامل مع التكنولوجيا الحديثة. لذلك يلزم مراجعة مقرّرات التدريس وتدريبَ الأساتذة بالقدر الكافي حتى يسهل أمرَ استخدام تكنولوجيا التعليم في بلادنا في القرن 21.

RÉSUMÉ

Les technologies de l'information et de la communication ont un rôle important dans l'enseignement et l'apprentissage d'expression écrite en anglais. Ce travail de recherche montre comment la technologie informatique peut faciliter certaines difficultés dans l'expression écrite par rapport à la méthode traditionnelle. Le présent travail examine l'utilité de « Oxford iWriter » – un outil interactif intégré dans le dictionnaire Oxford 2010 sur CD-ROM – qui a été conçu pour aider les apprenants à écrire correctement en anglais. On suppose que si les apprenants utilisent le logiciel de façon efficace, ils peuvent améliorer leurs compétences en expression écrite. Une expérience a été faite dans un laboratoire de langues où un groupe d'étudiants d'anglais en troisième année de licence à l'université des frères Mentouri Constantine ont pratiqué l'expression écrite à l'aide de l'Oxford iWriter et du dictionnaire ; leurs essais ont ensuite été évalués et comparés à ceux de leurs collègues dans un groupe témoin. Les résultats de la recherche montrent qu'il y a eu une certaine amélioration dans les écrits de nombreux étudiants. Deux questionnaires ont été administrés aux étudiants ainsi qu'aux enseignants pour évaluer leur motivation et attitudes envers l'usage de la technologie dans les classes. Les résultats montrent une réaction positive parmi les étudiants pour apprendre l'anglais à l'aide de la technologie, mais pas parmi de nombreux enseignants qui ne sont pas nécessairement des technophiles. Par conséquent, les programmes d'enseignement sont à revoir et les enseignants doivent recevoir une formation adéquate pour assurer la réussite de la mise en œuvre de la technologie éducative en Algérie dans le XXI^{e} siècle.

Mots Clés: expression écrite, technologies de l'information et de la communication, apprentissage assisté par ordinateur, Oxford iWriter, e-Algérie 2013, rapport mondial sur les technologies de l'information